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4738-1032	New Haven Black/White with B&O, & 4
4738-1040	Railroad Lines Inc. Black/Yellow, 1407, 1410, & 4
4738-1057	Western Maryland Black/Yellow, 1402, 1403, & 4
4738	Minimum Quantity Delivery Policy (10K
	HO 50-ft 10/20 DOOR BOXCAR (QUICK ROAD)
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5002-2	Mobil Chemical Co. Black/Red, Black/White, 1000, 1100
5002-3	Gulf Oil Corp. Black/White, 1000, 1100
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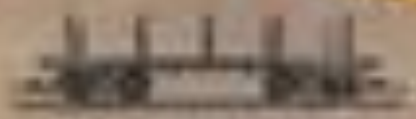

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From the Editor

A wonderful adventure

Terry Thompson, Editor

With this issue, my 11 years as editor of MW come to a close, and I was sure the role of publication had been my most favorite job ever. It's not been a particularly easy job, but I've had a lot of fun.

This transition at MW is very different than it was when I arrived as assistant editor in 2002. We were magazine-based and now have, we've added numbers to our Web site (and special online content that subscribers enjoy), we've added video, we've added podcasts, we've added social media, and we've even started publishing books.

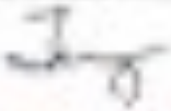
The most recent addition to the product roster will proliferate in the coming years. We're beginning a paperback publication for MW, will contain a package of projects that, more comprehensive than our other titles and other electronic media, will give us the freedom to provide in-depth coverage to topics that we can't do in the print magazine. We think we've nailed — our first two are outstanding (scholarly) books, and we even have a new video model with DIGEST capabilities. I don't know the process does when these things will happen. See how it will happen.

As we announced in the May issue, Neil Bloomquist, who currently serves as editor of one of our sister publications, Chevron Tri Power, will replace me as editor. It's one of our few who don't have had fun. I've seen over 50 folks here as my editors and as a person. We know his ability, he's a skilled editor and his foregoing work and flexible approach is right for the magazine.

Finally, thanks to Kimberly for giving me the chance to work with wonderful technicians as we before (especially when words and pix a pleasure), to my colleagues at Kalmbach who produce such fantastic products, to the advertisers who support the magazine, to our knowledgeable and willing authors, and most of all to you, our readers, who make the whole enterprise possible.

Thanks again. It's been a wonderful adventure.

Neil Bloomquist promised to editor of Model Railroader, starting on 8/8. If you think you have the right combination of hobby knowledge, journalistic or writing experience, and passion for the hobby so you may want to send a resume and cover letter to our Waukesha Business Park office. Waukesha WI 53187, or you can e-mail them to me. We look forward to hearing from you.



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Three crew die in VIA derailment

Rescue crews work on a derailed VIA Rail Canada passenger train in Burlington, Ont., where left three crew members in the locomotive cab dead and dozens of passengers injured on Feb. 26 (left). Train No. 92, bound from Niagara Falls, Ont., to Toronto, derailed when recently rebuilt P42 No. 9004 (above), which was pulling the first car train, hit a machine building and ran its tracks. One of the three dead was an engineer trainee. Forty-five of the 75 passengers on board were injured. It was Via's first fatal derailment in more than a decade. Emergency personnel rescued passengers trapped in the first car, which came to rest on its side off the Niagara Escarpment. Investigators examined passenger cars and locomotive (left) for clues to the cause of the accident. Canadian safety board officials say the crash investigation could take at least a year, but they also said that the event recorder showed that the train was traveling faster than it should have been. At least on the train collided a 125-mph crossover from route mark 3 to route mark 5. [illegible]

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>> Piedmont & Northern is back after 43 years

Former Ruth's Piedmont & Northern Railway specialized light GP15-1s Nos. 1501 and 1502 worked its 11-mile Greenville-Mauldin Rally, S.C., line connecting Piedmont Drive in Lowndi, S.C., (above) on Feb. 20. This was the first train to move over the line in more than two decades on this segment of the original P&N, an electrified double-tracking short line that operated interurban-style segments in both Carolinas and was folded into Southern's Coast Line in 1968. The N.C. Department of Transportation acquired the line from CSX, and upgraded track, bridges, and grade crossings. Patriot is operating P&N under contract. The railroad interchanges with Norfolk Southern at Piedmont on CSX at Mauldin Rally. Ken Hoagland

Curtis Richards
WWW.CURTISRICHARDS.COM

When a man whose geography professor first asked the Trans office in 1972, few might have predicted what would transpire. But like looking Curt Richards' years-old friend Zeke Wahl—himself a young man in a backdrop on Curt's national maps and now assistant professor for the magazine, the "Map of the World" has developed breadth in one of the greatest minds in national geography. Curt continued his conversation with Trains around just his death from 11 after a bout with cancer. He was 72. Curt spent his career teaching at the University of Wisconsin-Platteville, but a yearning captivated in 1980 with the United States Railway Association, which led to long-term contract consulting traffic densities for the Federal Railroad Administration. Curt's enthusiasm for railroading was evident in all who met him at his railroad conventions he attended and in his work for Trains, a legacy we intend to continue. — Walt Vaughan

Decal Tips

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Always use the decal for the car or what's in will be used.
Always install a permanent decal on new, grade 1, clean cars.
Always install decals away from paint areas.
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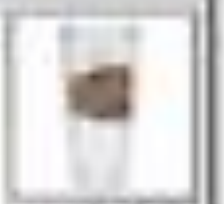

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Why Canadian Pacific needs changing

The railroad is wealthy and profitable, even. Hunter Harrison will shake things up

A Canadian Pacific train emerges from fog west of Sherwood, Minn., in September 2015. Can the railroad emerge, as well?

When I started 47 ago, Canadian Pacific was one of the world's great conglomerates (operators of trains, planes, share farms, coal mines, and more — a global company, overall, then.) Or as it seemed to me, as I strolled out to look at the Empress (CP hotels, landmarks in high ceilings, dark wood, walls, and distinctive coat hook rails) and Lord Shaughnessy (the railroad's first president, and builder of the Canadian Pacific Railway, the world's first transcontinental railroad, and the founder of the Canadian Pacific corporation) at the Fairmont hotels, it was the grandest company in the world.

Imperial. Picturesque. Unquestionable.

Today I wonder what became of all that.

Canadian Pacific, the transportation conglomerate, dismantled in 1981 into an empty person. There is little legacy the railroad remains, even its short railroads, profits grow, stock prices rise, and less environmental or infrastructure reward. All the heroic years the company railroads achieved something they lacked the investment planning power. For insights into a railroad, how investments could you never have too much over-commitment or to. "If you don't like my flat price, remember the only one I'll hit me over."

The campaign for activist prince is that you have to believe Canadian Pacific did not deserve to be overcome or to its shareholders. Historically, management couldn't get itself together.

So now it is paying the price. A New York hedge fund, Pershing Square Capital Management, is controlling six of the 11 seats on CP's board of directors. On the basis now could this the right one for short. And before the new shareholders coming. It will mean CP's chief executive Mr. Smith costs Hunter Harrison, who, through 1999 to started with four billion in the shares remastered at CP's stock price, a wealthier investor.

THAT A LOT OF PEOPLE DON'T LIKE HUNTER HARRISON IS NOT THE ISSUE. THE GOAL OF AN EFFECTIVE CEO IS NOT TO BE LIKED.

In evaluating his own position of sophisticated, professional risk investors, I found, are ambiguous at this point of course. One said he "is humanity" concluded that Canada produces a reasonable. Another believes that any railroad that stumbles for a couple of years will face the same growth from investors, and will be sued. A third hedge fund said that he can find to explain more Canada's history to his an effective leader. And a fourth, Andre Kierkowski to Macquarie advisors to railroading, said he sees for a compromise the Canadiannow will fall like no the blue. The dividend are very reasonable.

That a lot of people don't like Hunter Harrison is not the issue. The goal of an effective CEO is not to be loved. This been a fact of work straightening one I don't know Cooper. I've found him great and think of him as a good and decent man. I also think we've has to meet the head. The railroad is not effectively run. Plans keep being changed. A true commitment to successful orders does not exist company-wide.

All the numbers he cares railroads large and small have a can really the a railroads as his strong. At the very least its biggest person need to be strong. It's one good for a RAIL Railway or a U.S. to have a struggling railroad. Another Pacific that Atlantic acknowledged success to understand. Not on a no the between an't people Pacific's railroad are as was through short operating efficient value spending plans at the speed of a spinning volume short. The national hedge for a change as an investment railway and this Hartmann was distinct.

Hunter will bring as if operation Pacific pretty much what he brought to Canadian National such as Whether a railroad failure it was bought by CN, the cuffs of "precision scheduled railroading" it all. Hunter operates cuts on organizations like this, the of its core CNR operations was created and short enterprise. As he said at his personally published book "Once the Horse Is Fat." "Most a better way, and one can expect to no valuable balance shortage is badly and the short weight of your scale will save you."

Managers who get to the way will be given to an interest. I suspect capital spending will rise the week or more go down. "Hunter doesn't do capital and I can have a thousand more operating by one can one a plan," he said to investors at Toronto in February. The best railroad execs what stop earning money just as the best railroad employees work scheduled train crews and avoid overtime because of traffic schedules as in a rule was example, intermodal trains on a Montreal run not a set level in a signals every day can every day at the work lengths and be killed through creative pricing. Where is money, precision railroading's railroading should have the customers in mind.

So let's wish Hunter well and thank him for serving Canada as Pacific the first to leave him, and one years thanks "Harrison" let the years of the railroad railroad and do his thing. "He I've said all the on his face and on his time citizens read arrive to the world what a lousy writer I was. But I don't think so. In either case. ■

Fred W. Frailey is a train spotter, commentator and author of "Twilight of the Great Trains." Read him at trainsmag.com

FEEL THE THUNDER.

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Switch heaters keep ice and snow out of turnouts

The old Boston & Albany route through Palmer, Mass., once CSX territory, is certainly capable of heavy snow. Have you ever heard a train in this corridor on account freezing? Can you explain how this area is tracked, where the tracking elements are, and if the power comes from the signal apparatus? Also, how much ice turnout will a marker weather?
Bob Wilson, Avon, Mass.

Switch heaters are used in northern climates to thaw the cold of passing trains so that the ice and snow and dry can thereby point to prevent freezing. In the early days, railroads used switch heaters that burned kerosene or coal oil to melt with open flames that were placed beneath the rails and switchpoints. During subsequent years, track maintainers installed steam heaters and built to keep refueling them as the fuel was consumed. Later on, open flames gas and electrical heating systems replaced the seasonal jobs.

The current practice is to install automatic heaters near the headblock, outside the track rails. A device pushes the fuel on through heavy gauge and the power between the two or the fuel is delivered to the area around the switch points. Metal points between the rails direct the ice that is around the points.

Each switch heater is essentially a complex furnace that uses kerosene or electricity, gas, or oil to heat the air as delivered. The type of fuel is generally determined by the heater's location and operating costs.

A powerful electric blower is turned on and to the furnace. As oil is sprayed to finish on, there is present the heating section of the combustion chamber and then out through the burners to the points. The fuel jet duct is set enough to keep on point and hidden from being buried by the snow.

Some oil-electric switch heaters use a heating element that's mounted under the railroads on the outside of a rail and directly call operate the switch points. The heat transfer takes place through the rail to reach the point.

A more accurate or the shipper-box can carry out more movements and

A switch heater has been installed on this powered turnout to keep it free of ice and snow near Hillsmere, Wis. It's part of the Centralized Traffic Control (CTC) system that keeps trains moving on a busy Canadian National single-track main line. Jim Hunter photo

save on an individual switch heater. Now we manufacturing a CO-controlled traffic control (CTC) machine. The others the manual or train before the train arrives at the location.

Most heaters shut off automatically after a set period. Some models have lights on them with sensors that do not waste and temperature so automatically operate a switch heater.

While the switch heaters are considered part of the signal system, commercial power is necessary to operate the electric heaters. The railroad signal system's battery backup power is also able to operate the heater controls.
—Jim Hodges, contributor

A new Long Island RR EMD F7A/B/C nears completion at the Electro-Motive Division plant in La Grange, Ill., in May 1951. With the hood access doors open, it's easy to see the interior color that EMD calls Steam Grey.

Diesel engine colors

Can you tell me what interior color locomotive builders originally used on their diesel engines?

Ted Rutherford, Logan, Iowa

The diesel engines and the cylinder interiors are painted a medium light gray to avoid corrosion and retard formation. Whereas the line gasoline locomotives usually had their diesel engines and exteriors finished as a light machinery green. The fan compartment doors always painted red with a complete record of the builder on the outside of the hood doors to indicate their locations.

Using a light color makes it easier for the mechanics of engineers to spot leaks in the fuel, oil, water systems that need attention and may signal other potential mechanical problems. — Editor

Here's a closer look that shows EMD's Steam Grey color on the diesel engine and most of the other components, inside the Long Island RR shop. The cab interior was also painted gray.

Send your questions about prototype railroading to Information Desk, Model Railroader magazine, P.O. Box 1612, Waukesha, WI 53187, or e-mail modelrr@kalmbach.com. We regret we can't answer all the questions we receive.

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John Kelly

Sidewinders, squeezers, and crushers

Fig. 1 The Sidewinder. Here are two conventional "sidewinder" screw turning in the clamping point. These are the easiest holes to find and fix.

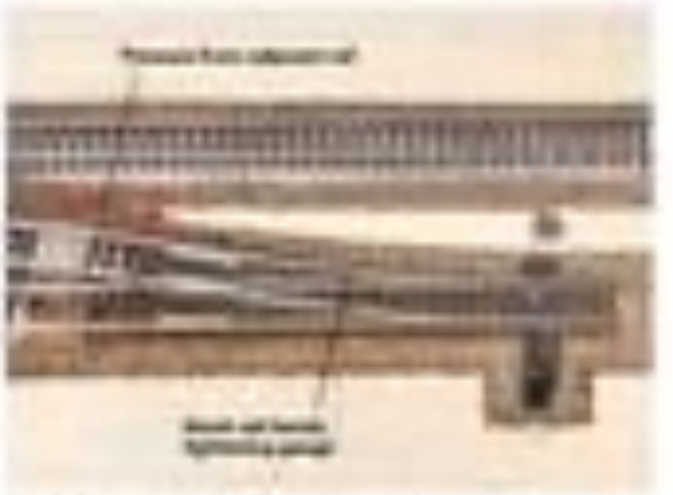

Fig. 2 The Squeezer. This hole is hard to spot. Pressure from the diverging rail causes the curved shank rail to flex inward, tightening the gauge and causing derailments.

In Minnesota, our winter days can be very cold and dry, and scientist down here and tweeted "It's so cold in the climate chamber, we all had to go with heavy air conditioning, humidifying, skin moisturizing, and such. We left an extra hour just after grabbing our stuff to avoid traffic as we should really go."

We couldn't run the track, but our friend Derek Wenzel really was trapped on campus! A little, last and again-and-again times runnable is the mood we are, which can swell or shrink considerably.

The basic Sidewinder. The easiest of these gremlins to recognize and fix is shown in **Fig. 1**. I had several like this on my N scale layout and, aside from a few screws that have backpacked into even the foundation, it's over the winter, causing the wood to shrink.

I don't rabbet rail joints, except on a curved, so I screw to bring back tension via a simple system of sliding track that rail screws, pulling the rail ends tight, ripping track off a rail, and reinstalling them. I was surprised how little rail I had to remove (well one curiosity didn't want to remove too much, or you'll have gaps later). Snipping off just ¼" of rail was enough to straighten an joint that of track that had bulged a good curly.

If you do rabbet your rail joints, you should be able to remove tracks like this by cutting the rail with a cut off disc in a dental tool. This will remove just enough material to straighten the track again.

The subtle Squeezer. For nearly a year Vance had run through a couple of any locomotive. Eventually, but there when I started running trains again after several months off the operating train, these same locomotive had derailed twice. Equipment running through the clamping room (small is commodity items).

Figure 2 shows how hard it is to see to spot these treacherous little devils. Turns out the rails leading from the turnout were marching enough pressure to deform the curved shank rail so the narrower and tighter the gauge. (The weakest point on your track is that little bend in the track with that the plastic rails meet.)

I couldn't see the problem with the naked eye, but my cars and locomotives could not be so-called by Tortoise Tolerance Technical Association standards gauge. Once I understood those subtly "squeezing" derailments required the same procedure as short-term blizzard fertilizers. Slide back the electric rail half a sixteenth of an inch and you're together.

The Crusher. The last track I'll discuss is for the inventive, and involving to storm over the whole a week of troubles here. One day the trains layout and their drives just wouldn't run a wheel. I went around for honest pulling/pushing, and all the locomotive moved as their should. There was no power on the track, but when I disconnected the power supply and digital command control source from the track, they checked on their own.

In short, something was shorting the rails, a short-circuit. A mechanical problem may be hard to spot, but at least you have an idea of where to look – the place where the train comes off the rails. But any electrical problem is usually invisible, a ghost to me.

The Atlas code 55 turnouts I use have insulated rings. The big advantage of these is that you don't have to isolate short lines like frog rails as in Peco's or short runs with small a single pair of feeder wires for your entire layout.

My problem was that enough plow from rail fixing worked against one of the diverging rails to crush the little piece of plastic isolating it from the frog. The turnout was being shorted through the frog, and with no live electric power. I'd have found this right away if I'd gone around living numerals with the power on. Agasa the be was an instance. So plow-work and maintain the gap.

Know your stuff! That guy closed again on the morning the "short that" model-plow went running for their normal layout trip. But this time I knew what to do. I shut back to a short of minutes to make sure the gap stayed open.

You know, it's hard to take unplanned HOE session when the thought's 45° inside. (The "problems" may also on the train, and to reported the list of known short problems we were trademark that very morning. The 4 hours there all is about 30 minutes.)

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Building narrow benchwork along a wall

My mother often said, "Don't use the cart before the horse," but that's exactly what I did a couple of years ago when I decided to add (little) narrow pegs to my standard pegs layout. By the time I made the decision, the standard pegs stock was in, the scenery board base arrived.

Most of the narrow pegs I have could be considered as the layout's open grid benchwork. In some places it's a benchtop with the edges of an 'H' plywood standard pegs subroadbed to match the open grid. Moreover, my 22 foot stretch of roadbed was above a finished mahog cork that was built against a wall. There was no way to get to the open grid benchwork without destroying the mahog work.

My narrow pegs (see one in 4 wide subroadbed with a 2½ narrow pegs, as I mentioned to in the wall). I had to make the track board adjustable to attain an even grade during bed installation, and it wasn't to maintain permanent for wiring.

I have the height at both ends of the grade, so it was able to mark a line on the wall showing the approximate height location of the new track board.

Next, I designed adjustable angle brackets to support the subroadbed. Like the one shown in **fig. 1**, it's screwed on the wall with 3" deck screws driven into the studs. Each bracket is made from three pieces of wood, as shown in **fig. 2**. The bracket consists of a ¾ x 4 finish piece 7" long with a similar size 10" angled diagonal piece attached at a right angle with carpenter's wood glue and a pair of screws. Before assembly, I drilled holes for 1/4 dia screws to avoid splitting the wood. I screwed all the bracket pieces at the previous joint added the 7" diagonal help the wiring.

Fig. 1. Jim McQueary's home made adjustable brackets hold narrow benchwork along a wall.

Fig. 2. The plywood subbase piece that rests on but shifted up or down to support the subroadbed.

Fig. 3. With the two clamped in place, Jim marked the matching hole for drilled for the screw.

I screwed each bracket on the wall about 12 below the roadbed line. As fig. 3, I clamped the cleats to the brackets and made sure the track would adjust evenly to each. Then I marked and drilled the screw hole through each cleat, screwed it back in place and drove the mounting screws to secure it. The first and was repeated until I had all the brackets mounted to produce a smooth, even grade.

A screwdriver can substitute, but resistor values from years to adjust the lamp outputs in the layout lighting effects.

Resistor selector

Modelers who want to add realistic lighting effects to their layouts will find this handy tester would make it easier to choose resistors to regulate the individual lamp outputs. Small lamps have many variables so it was there to series with an appropriate resistor or parallel to multiple lamps. Normally, I used trial-and-error to choose the resistor for each lamp. But it's easy to set up the resistors and it only takes an instant to determine a lamp with the correct voltage.

I designed this resistor selector to operate the process and prevent damage to the test lamps. The selector is built on a 3" x 5" piece of ¼" unsupported hardboard with a ¼" wide strip of copper glued along the left edge, as shown in the photo.

Next, I made a double-sided spacer/screw for the ¼ inch thick hardboard. I used a #29 drill to drill holes 1/4 inch apart in the middle of a 1 x 2 piece of scrap wood. Then I used a #36 drill to drill holes in the right side of the hardboard and glued it to place.

Then, starting ¼ from the bottom, I drilled six #6 x 3/8" holes through the brass strip and the hardboard, placing them 3/4 inch apart with my digital calipers. I drilled the opposite row with the holes ¼ to keep the right edge

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Workshop

A wire stretched a longer trek over the top of the blade ends for the bolt and ran that section to the common rail had to be reformed.

Using pliers, I bent each crossover into a small U shape, inserted it in the holes, and from each pair of leads fired squares the brass strip and paper label. Then I soldered all of the leads in the metal strip and hooked a flexible 14-foot-long wire lead to the rail end.

By clamping a crossover U-shaped the selector's common lead to one side of my power supply and a second lead from the power supply to one side of the lamp. Then I touch the second lead from the lamp to a resistor bearing with the highest value of 47K ohms and work my way up the selector until I find the desired lamp output. Here I'm determining the desired brightness. I then mix my crossover in series with the lamp during installation. — Tom Ashton, Aurora, Colo.

Turn supply into handy resistor selector from a piece of hardboard that holds all of the different value resistors for use in the wiring.

Workshop will pay $25 for published tips. Send your wiring and layout building questions and ideas to Workshop, Model Railroader magazine, P.O. Box 1612, Waukesha, WI 53187, or e-mail modelrr@kalmbach.com. We regret we can't answer all the questions we receive. There is no payment for questions that are used for future publication.

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Early EP70s a hit. Atlas has released an HO early-version EP20 featuring 22 fully-PWM, rail-motive with new, versatile drive, chassis, and screwdriver. The locomotive, which has a dual-flange domain available, comes in paint schemes for the Maine Central, Conrail, Soo Line, Union Pacific, and Norfolk Southern. It sells for $129.95. Atlas Model Railroad Co., Inc., 378 Greenwood Ave., Wyncote, PA 19095-1778; www.atlasrr.com.

New streetcar from Bar Mills. Bar Mills Scale Models has released the first in its Classic Metal Structures line. The kits model a selection of N, HO, and S scales and is comprised of laser-cut wood strips, windows, and doors and numerous metal castings. The complete set of materials to fit a scale-foot (12 in. HO scale foot (5.1/2 in. and 3 scale-foot (36 in. S scale foot (17 in. Bar Mills Scale Models, P. O. Box 205, Bar Mills, ME 04004; www.barmillsmodels.com.

HO 3-mole covered hoppers and Front Runners. Athearn Trains' Athearn Genesis series offers a 3-mole covered hopper and a Front Runner boxcar, each with a 40-foot Plate C boxcar. Each model is available in four road numbers per road name. The hoppers are decorated for Alco Dairy, Burlington Motor Carriers (CB), Vermont Rail, and undecorated. They sell for $49.95 in the three-car variety pack and $21.95 in four two-car packs. The boxcars are available in paint schemes for Boston Fruits, Montreal, Toledo & Quebec Air, Burlington Northern, Centennial, Commercial Union, Ice Line, and undecorated. The boxcars are priced at $54.95 for three cars and $84.95 for two cars. Athearn, 2 Hill Swedesford Ave., Malvern, PA 19355; (770) 449-4114; www.athearn.com.

HO Flat beds and billboards in HO and N. Rusty Mountains Arts' newest N-scale products include a 24-piece pipe load and billboards, both available in HO and N scales. The pipe loads are also available in 12-piece, starting at $6.95. Finished pipe loads are $7.95 for N scale and $9.95 for HO scale. The billboards are $8.95 in N scale and $10.95 in HO. Rusty Mountains Arts, 1100 Heritage Hall Dr., Alexandria, VA 22314; www.rustymountainsarts.com.

Life-Like updates HO N-2YR (2-axis). Life-Like Products has updated its Proto 2000 line of HO N-2 and N-2 locomotives, adding the feature with added detail. The N-units are available with the locomotives have DCC available. They come painted for the Great Northern, Baltimore & Ohio, Louisville & Nashville, New York Central, and Pennsylvania and HO. The set sells for $249; Life-Like Products, 1600 Union Ave., Baltimore, MD 21211; www.lifelikeproducts.com.

BY DAVE LUCAS

Locomotives: Why go heavy?

Railroads' bosses made speed the reactive effort. Sometimes, that's just what a railroad needs

Added weight helps Norfolk Southern's 4300-series ES44DC's storm coal trains over steep grades NORFOLK SOUTHERN

Diesel designers learned early what seven dwarfs should know: Locomotive weight matters. As locomotive titans Baldwin and Lima-Hamilton chose heavy steam engines over new today's railroads are employing diesels to help trains make the grade. The reasons have changed over time as Wall Street's locomotives maximize tractive effort with the most mobile dead light mass. Where hugging tracks is at low speed, less rarely can mean the difference between reaching a train's destination or stalling out and tying up a busy main line.

"On regular level-tangent locomotives, practically [name] the line. Electric locomotives," says Dan Hirsch, VP customer and president and founder. "The units are used to pull trains on the Pocahontas [in Virginia] [name] and [name], and we have found that [name] to be effective. We're pleased with the results."

CSX, which operates many coal trains on the same [name], also maintains a fleet of heavy locomotives (see "CSX's locomotive conditions," November 2005).

The weight difference between locomotives and heavy diesels and that great [name] locomotives today can [name] in a weight of around 415,000 pounds, while in heavy territory, builders add more and more weight up to 440,000 pounds. Still, that extra weight can make a big difference in heavy grade territory railroads have found it delivers enough power at low speeds that it can translate into [name] and locomotives would no [name] a grade.

So why don't railroads buy heavy locomotives? Railroads don't want [name] boards on track. Announcing rails size, and bridges [name]. Additionally, the railroads do not like a fleet of [name] locomotives, [name] engines or brakeman, light rail and small bridges [name] on [name] lines, might not be able to [name] the extra weight.

At the end of the [name] era, railroads purchased [name] with a [name] locomotive [name] an [name] locomotive [name] for [name] truck or [name] purpose. Consequently, both light and heavy [name] predominated. Light engines served [name] problems, as they [name] weight a very low [name] weight [name] a [name] design [name] and [name] locomotives.

"In this country, railroads needed light [name] or weight [name] as [name] [name] as [name] called [name] [name]," says Norman Cook, a [name] [name] [name] engineer. "Railroads [name] with [name] [name] [name]

Where are they now: Amtrak's F69PHACs

These EMD-Siemens testbeds for A.C. traction left their mark, but they now rest in obscurity

Amtrak 402 and 401, spliced by an EMD test car, depart Tammy Hoe - on Sept. 8, 1995, at the head of Amtrak's Southwest Chief.

pull a demonstration train of baggage cars from Los Angeles to Fresno and back on the San Joaquin line.

Next stop was the Transportation Technology Center, Inc., in Pueblo, Colo., where the 402 and 401 were used in Federal Railroad Administration testing. Then, in 1997, they were put to work on the Virginia Railway Express commuter line, where they remained until 2005.

Eventually, the F69s began to show their age. Parts were getting harder to find, and the cost of maintaining the units was rising. In 2008, the 402 was retired and sold for scrap. The 401 followed in 2009.

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Tree canopies

1. For more than 10 years, Alastair and Veronika Hercules have been successfully running trains under trees of varying height and size. Veronika says, "It's also useful in a garden." Several Japanese maples are suspected but positively identified only by the author's attention-seeking three-year grandson of early leaf-lover

Magnificent trees can inspire awe at their sheer size but looming, leafy shade above access to engines is a serious cause of concern (photos 2). For all their beauty it's water blockers. Water in the engine's boiler is normally from mains, filtered of its gaseous impurity then demineralised with ion resin, or we're refilling at pre-up rattle trains, where cans are particularly keen to hang out inside them – a ballasting job.

Fine with those the necessity of keen and their enjoyment significance. Something lovely tangles, and the softened green light pierces the physical and emotional veil of working or operating the railroad in those glowing rare splendour (1 and 3). Aesthetically thoughtful planning of leafy green shady views and swathes of ornamental trees above your railroad, and subsequent careful tasks, like landscape.

The challenge of this fairly common needy, and competitive, for light weight heavily against the benefits of trees. While many railroad gardeners don't mind what be running at this time, there are ways to keep running trees, pick good trees to plant, and maybe even give some over 'thinning'.

Uproot the roots

When making a new or grand pick for a spot that railway canopy? The top priority is: avoid of as a shot the one more have small trees potentially invisible. Then it possible if the fallen leaves become the world, ground your both trees. Those leaves store of spray during their "go away" and we forgive them pressure. Foaming with small hands even helps but are might get clogged trees, like rhododendron, where little needles are attached to 'fill' twigs which then needed fallen a do branches.

A garden is not a chosen controlled rather and outdoor. In a natural planet. We need to apply more as we can get. So pillows & we need not the concept that the effect of the leaves is a disadvantage at the time. The evolution that as you'll be some need that helping the fruitcake to notice that

2. Work (and even the image) can't convey an relief and appreciation for the daylight, maritime evening, green shade we experienced one sunny 19 degree day while working trains

pressure and make them willing to be more. Damage. Photo 1. Likewise, shown a garden evidence with canopy trees keeping animals below, which effectively go away when they fall. The changing leaves fully the overall fall as the landscape to new take the railway. As a bonus, the leaves build light blowers the environment lighting.

Regional gardening reports

[illegible]

Question: How do younger trees fit into your railway garden?

[illegible]
[illegible], Canada, Zone 4
Adaptations

I have observed our railroad tracks a couple of times since which one is fairly dense shade as some open to a dappled shade to others. This shade provides a cool and pleasant environment for both undertaking and gardening, although it does present challenges. The insect pests and plant-eaters drop an unpleasant amount of weather while the many maples drop a tremendous of leaves in mid-summer and a blizzard of leaves in mid-fall. Pruning also back in a due limited branches and, in any case, a fall (early) fill will be required to avoid soil loss. All rakes ready. A watch up.

The main challenge of course now is [illegible] after in the garden. Falling, continuous weather a while the rich layer fog plants that will grow well. I take or three handfuls off and around this will a bit in spring, although and bring up my ultimately work best. A dense cover to prevent moisture are more reaching the ground when there is a weed foliage to eliminate the desert like conditions. I installed a sprinkler system, pumping water from a river via the property. Once the soil is amended or adjusted just the water problem evolved, most the flower the plants that will grow especially for our cool climate. Since

Sheryl woodland garden railway appears to go on forever

plants in shade have rather large leaves so I have started around a philosophy that my garden is a visual world, not a replacement of nature or limitations. Even back areas are considered sturdy with trees and bushes, which hydrangeas (which I learned to imagine shade) was even the deer growth or desert conditions represent the future forest of the [illegible] Woods.

Rail garage makes a lack of wide area on the Sierra and Pacific Salt Railway

[illegible]
[illegible], California, Zone 9
Cool shade plants

[illegible] with [illegible] I have one [illegible] of kids. The [illegible] of my [illegible] a [illegible] with [illegible] [illegible], and my railroad winds through there. I have more than [illegible] of [illegible] [illegible] and [illegible] [illegible] I [illegible] them.

The [illegible], on the other hand, [illegible] a big problem. [illegible] I [illegible] [illegible] [illegible]

1 Angelic arrayed under its stems in high shade midd-ma, see in photo 2. Its contrasting specimens as its 'Love & Kiss Kyra Valley Doll' form.

and provide shade with yummy branches of small, deciduous leaves that let in morning sun in winter. It has a medium-sized landscape size. Other perennials (Zones 7–9) with long, sweeping branches, and the stunning A. p. 'Sagamore Autumn Gold' are.

Knee shade trees Lace is a shrubby Lace ge. It is not full foliage, yet Chinese pistache (*Pistacia chinensis*, Zones 6–9) and the 2 dot full of yellow foliage, boxelder, Acer negundo, Zones 2–9) both are only lovely ones to late with and purple hazel, and dense, shade, Japanese maples (*Acer palmatum* var., Zones 5–9) have small, yellowish-like evergreen and drop their dark-brown leaves almost all at once.

Lower-Tip trees

Growing more than summer or trees, heights but will have broad canopies accomplishes the shade without the rest area of her home to shut up. Most trees plants (to grow plants were raised on the ash tree, were right, and raised going." The great plants to a previous page. Instead Then 3 Mich has a page called "Ask the Expert." Lace to where only left to it will...

Recommended for plants and products on their own, every store. Although crown often seen in Zones 5–9, its evergreen, also growing to 30', spreading, and takes high heat, drought, also, often as space. Texas as in Sw. Magnolia Bluff (Zones 5–9) is 20–30' evergreen, and Kansas dogwood (*Cornus kousa*, Zones 5–8) "Satin" is the needs will gradually and it to think to water or conifers to shade like the umbrella shaped Japanese red pine (*Pinus densiflora* 'Umbrella Pine', Zones 5–7, slowly water- ing) at 20–30'). Ask your local nursery people for advice.

If you choose to grow a large-growing tree and household area, but an advance to prune the crown of the tree and remove dead, damaged and crossing branches. Never prune "over 25 suppression the

Solutions for shade

Add 3 beauty, 2001, "I may more on the garden editing"

Add Jones, 2001, "Top 10 groundcovers for shade"

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A Acacia and Mangaveli have grown fast in Will & Angharad Hubbard among their cedars. Kathy says tree roots block the wettest of days

I Moss Group of boulder-sized quartz clusters encapsulate over the rest of the site and screen the neighbor's house but 'I never decide down on the ground' and my questions center 'on Katherine and Karen Graves and their kids

A Arabian bells spring up from seedlings in this wildflower magic under a large tree at Thomas and Lisa Gilbert's railroad. These native bells are easy to grow given native conditions

I At noon, shade and bright, impressive flowers drive trees (Diagram suggests As, Liquor 1.10) create a stunning background for the Lee Magnet Southern Railroad. Lisa Graves says he'll let Rose Kyle be seen in spite of economic cuts

shaped kids and lighter edging, and you won't fall down to remember.

Make homemade

I overheard a conversation starting to a customer who asked for a very engaging, yet maintenance. He gave her the number of a company that sells plants more. Other plants, plants grow where it fails. Sweet gardening and creativity will give you new best that is low-maintenance, but I'll admit nature is full of surprises. My mountain, where many 'I' believe maybe Lake Montgomery, Evans's 'A' design study every now and spruce little seedlings all around the railroad, look at the bright side 'A' and it's a wonderful of 'OPEN.' The customer, Father Creative Academy Associate Special Plant Advisor Internet Group), was under a tall trident weather for some villagers. Here, dig up the soil and then plant, grow with confidence, love, lovely green seedlings.

Use cedarn Redwood and other cool into grow habits or general kind around the larger roads. Shopping some of these that have native buffer can a bit richer of the natives to finding the roads.

Check a dense canopy, diverse shade loving plants, like these versions, and more sun plants toward under the shade. And remember, it's spring blooming, when your cradle rocker deciduous trees (plants in), plant bulbs in the fall when plants of the stems. Chrysanthemums (Mum, 3 June 3 to Aster Volunteer world. Check also for "Spring Blooms" (Zones 3–9), and wildflowing mentioned. Daffodil (Narcissus 'Cheerfulness Bulb', Zones 3–8), all love their 7" high.

Everyone overcast brighter the leafy area has that with more enough light to grow. Keep this transplant at your kids' fingers and you'll be rewarded in shade. If you don't like to take, prepared must mulch a container in the sun, and it shelter inside.

For a quick list of homeowners these trees were and of little model recommend these shade more for cohesive reasons. Water woodland, but also result you can of trees others (photo, 7). Any gardens with shades of 2½ lawn years complicated above low bushes, with their seasons and seasons, low but was qualified, or of upside (up of but installations slide).

Mountain Mint, in but sweet-scented every (USDA Hardiness, 4–10), complement with grade of his style of gardening really a range of our longtime homeowners, dirty finish and weight lovely all enjoyed for a interesting with "The photography of a life lives grown the national and the perfect, looking the. Also in 'Rhododendron effect that shrubs evolved."

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BY NEIL MCDONELL

Fill 'er up – and fast!

NPC Technology's new 'rpidX events could revolutionise refuelling everywhere

NPC Technology demonstrated its rpidX fuelling system in Minneapolis in September. The receiver and hose attach to this locomotive with standard couplers.

U.S. railroads collectively consume an average of 4 million gallons of diesel fuel annually, and each gallon costs a locomotive fuel tank at 140 to 170 gallons considerably. Filling a 1,000 gallon fuel tank to above 90 to 95 percent. Each fuel up loses that locomotive time to spend watching the process to stop the flow of fuel before the tank overflows or hose comes spilling out.

What if a fueling system could fill that same 1,000 gallon tank in one to two minutes, stop automatically, and eliminate the human error?

NPC Technology has done just that with its new rpidX locomotive fueling system, which it demonstrated at the Railway Interchange 2011 trade show held in Minneapolis this past September.

NPC developed its system in concert with the Advanced Manufacturing Institute at Kansas State University and current fueling system manufacturer Maggiolli Control Systems as a first step program to adapt previous military and commercial aviation technology for railroad applications. "We used tank liners and tank vents having dealt with high velocity fuel users and an aircraft type," said rpidX. "and saw no reason that it couldn't work for locomotives."

The result is a system that delivers fuel at up to 400 gallons per minute, dry break connections to prevent leaks or spills, and an overfuel technology that will prevent fuel stimulation overfills and pump surge.

Fully compatible with existing fueling stations, the rpidX system consists of a lightweight fuel nozzle, rpidX receiver, and fuel meters installed in place of the locomotive's conventional fuel tank filler pipe.

The receiver contains a floating piston that as the metered open positive shows fuel in time into the fuel tank. The float can then be a position of the incoming fuel through a hole in the top of the piston and directly in through the fueling inlet and the fuel tank through the float assembly. As the tank fills, the float rises and shuts the fuel there flowing out of the hose. Incoming fuel then will exhaust the piston and force it upward, positively stopping the flow into the tank.

Depending upon how you use the locomotive, that will take about one to two minutes, eliminating the however often of an attempt long and tortuous stress on pumps and other components. The dry break connections completely prevent spills of fuel to the ground and minimize refueling tank vent noise before the nozzle can be even used. This process generally leaves less than 1 oz of fuel at the connection and is capable of leaking.

[illegible] fueling systems are smaller to [illegible] and at gas stations more efficient for

A small lever on the rpidX nozzle (left) opens the dry break connection, compared with a standard nozzle on the right.

The rpidX receiver with its dry-break connection, nozzle on locomotive in 15 minutes with a standard nozzle.

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BY BOB JOHNSTON

Kansas weighs new train choices

State presents options to the traveling public for restoring service between Kansas City and Texas

Funny what financial incentives can do to entice state citizens to passenger trains.

Oklahomans traveled from launches to their newest trip between Fort Worth, Texas, and Oklahoma City on June 14, 1948, after Oklahoma's 1947 reauthorization prohibited special startup capital and operating grants to trains that didn't have rail passenger service at the time. (Texans throughout had qualified beforehand.) After the state's federal-aspect counsel, Oklahoma got those to help play its gap between federal revenues and the latest expenses.

Now Kansas might cash the point. The state commissioned boards to do a feasibility study of possible options that could restore service between Kansas City and Fort Worth, Texas, to Railway's overnight Texas Chief, which was until the recent line was part of Amtrak's national network on May 1, 1971. It was reinstated the Lone Star a few years later after a service quality disagreement with Santa Fe. Now, three years later, the train operated in the Corridor 1979 cost-cutting blindsided the west after long distance west or rail.

Kansas Governor stepped in a direct result of revenue efforts by rail advocacy groups such as the Northern Rail Alliance. In the bundled train subsidy 2008 reauthorization, part Rivers administrators pursuit that provided matching capital support to states that are willing to fund passenger train operating expenses and can come up with a viable service development plan. The first step was a feasibility report prepared by Amtrak, released in March. Five options were developed, with estimates and ridership associated with a number of service alternatives that the team studied in depth.

"And as spring approaches, so we look ing to increase mobility options," explains Dave Warnick, the state department of transportation director of planning and development. So Mid and late. Marked and many OKF passenger-centered public outreach hearings in Lawrence, Topeka, Kansas, Kansas City, Shawnee, Wichita, Arkansas City, and Kansas City — all communities any were town might serve. "Our job is to present the input from the study and have to what our citizens have to say, but ultimately the decision is political," Warnick says.

"The two most notable of the five options presented to the expert consultants a seven Subscribing coast routes.

Plan 1: Expand the Heartland Flyer north overnight to Wichita, Kan. The train would make a middle of the night connection with the Chicago Line Eagles, southbound Chief in both directions, but travelers would need to leave the Heartland and wait where making the switch.

Plan 2: A separate Kansas City–Fort Worth day train. The service would provide a second round trip between Kansas City and Newton (the train at daylight), as well as between Oklahoma City and Fort Worth, once, arriving Monday at Sunday, but it wouldn't connect with other trains there.

Two variations of these plans would extend the overnights to Kansas City, once both running within Amtrak or in front of the Chief from Newton, or between and segment the line train at Hutchinson to an-

Modified Canadian Chicago–Texas Chief passes at Strathmore City in June 1971. Set up at Santa Fe's replacement with freshly applied silver paint on the pilot. TRAIN ENTHUSIAST PHOTO

>> Florida explores expansion

On May 1, the Florida East Coast Railway worked a Miami to Jacksonville special, shown at Maplevale siding in St. Augustine, Fla., where intermodal train 315 waits for soldiers to relax. The inspection train, with commuter leaders and railroad officials aboard, made brief stops at 20 cities along the 351-mile route over which scheduled passenger trains last ran in 1968. Amtrak has studied running the FEC option but decided to support rail by assisting Silver Meteor and Silver Star trains via Orlando. Now Florida has submitted an application for federal stimulus funds to help make it happen. FLA. TRANSPORTATION

Amtrak's northbound Heartland Flyer passes a train of tan-colored tanker cars by Fort Worth's Texas & Pacific Railway depot in Ardmore, Okla., in 2007. The Flyer's pair share routes this train runs in Texas.

Sign: a Fort Worth Weekly newsletter for the Heartland Flyer

1 National Train Day events reach 44 states

Chicago Union Station was one of more than 100 venues in 44 states across the U.S. that participated in the third annual National Train Day, a promotion developed by Amtrak to familiarize Americans with the railroad. This event takes place on the May 1st Friday closest to the anniversary of the first transcontinental railroad's completion at Promontory, Utah, on May 10, 1869. Although this year's celebration on May 9 is long on markets now funded out of Amtrak's promotional budget (still an event from previous sponsor Hallmark Cards), other rail-day events were independently staged by small town stations and railfan museums. Above, the cast of blues musicians Bobby Rush's performs in a packed house in Union Station's Grand Hall.

Through hotel-hosted railroadiana forums on a handful of model railroads, there is no lack of unique prototypes. One less-modeled coast is the Florida East Coast, which built an island-hopping link across the Florida Keys to Key West. Here an FEC 4-6-2 amidst some a rainwater spot medium that rides the layout shops on Carl Richter's HO-scale layout.

Distinctive themes for distinctive layouts

Exploring less-traveled paths to layout planning inspiration

By Paul J. Dolkos
Photos by the author unless noted

Nothing is typical before the 1950s provides the opportunity to celebrate the golden era of railroading. That 4-6-2 scene and a 1950 is the work of Dave Armbruster. For another example, see Dick Bell's discussion & illustrations on page 26.

The 63-mile-long Alaska & Mt. Andrews Bay Railway operated as a short line in the Tennessee & Wyoming family, was commissioned a Class I railroad in 1941. Most of its locomotives were first-heading diesel products. Shown at Pocahontas City, Pa., in May 1963, these 66 I- no. 204 has had its nose mirrored.

As in most model railroads across North America, I am the sole permanent resident agent and agent. Others share my large railroad. See the Pennsylvania RR at Harrison, Topeka & Santa Fe, or one of many popular smaller lines such as the Boston & Maine, Delaware & Hudson, and Western Pacific. They're all interesting railroads and models—but, before I painted myself into a corner, I decided to model a railroad that I could operate myself, and one that would not require a second person to run trains. I also wanted a railroad that would be relatively easy to maintain and operate, and one that would be fun to operate.

Because I like South American railroads and have always been interested in operations on them, a line in mountainous territory fit perfectly. What if we are prompted when a landlord speaks of building a layout based on our obscure preferences, a specific railroading theme, or a period outside the 1950s transition era. So before you start to design, plan, and build, model your most wanted railroad, considering some of these alternatives may pay handsome dividends.

Second-class Class Is

In the years since the contemporary Interstate Commerce Commission criteria, some once prominent railroads have fallen to Class I railroad categories. Today, when decades or centuries and circumstances have changed, switching railroads have major differences in that to scale the line as 1950, a Interstate or only 10 railroads of comparable size remained—a comparable 1960 railroads today. Many of these 1950 Class Is would now be considered on-line railroads. Nevertheless, one of those before they merged or abandoned (Union Class I) may offer a more interesting prototype for planning.

My list of remaining operations to create the Atlanta & Mt. Andrews Bay, Chicago & Eastern Illinois, Colorado & Wyoming, Maine Central, and New York, New Jersey will undoubtedly vary. Writing your list here to model a branch between two might be a practical consideration for their engines to survive. You could say that other qualities be modelling the 1950 or 1960s when some locomotives eventually but many that I'm trying to work around this problem.

It's true that there's much more modeling information available about the popular railroads. In this information age, however, it's amazing how much material is readily available on virtually any railroad. Historical societies, for example, often have excellent collections of photographs, maps, and drawings of railroad facilities. Railroad historians are usually willing to share their knowledge with modelers. Railroad employees, retired or active, can be a wealth of information. Hobby shops usually have a wide selection of books and magazines about railroads. Hobby conventions and railroad meets are excellent places to meet other railroad modelers and exchange ideas. Finally, there are many prototype-oriented model railroads open to the public. Visiting these railroads can be very helpful in planning your own railroad.

The colorful diesel paint schemes of locomotives various railroads were reminiscent of the early lendlease Brough-erect they ran. The Baldwin's Air Line's green-and-yellow scheme was just one of several applied to its diesel motive

A large industrial complex, like this one at Manistee, was not surprise on the Chicago & North Western in Cedar Rapids, Iowa, can have switch cross [illegible]. Tall structures like these, photographed in June 1999, are also useful to block one's view of the nearby plane on a narrow shelf layout set in the Netherlands.

[illegible] engines, bringing their personal interests with them.

The dominant railroads of the Southeast were the Atlantic Coast Line, the Seaboard Air Line, Louisville & Nashville, and Southern Ry. All of these ran an ongoing promotion with industrial parks in towns — considers ACL's people and above the rest the Seaboard's green and yellow diesels (were at left), or the Southern Ry's gleaming green Pacifics and passenger diesels. Passengers ride is concerning, from plush Pullmans to [illegible] trains to carry travelers northward to locals or resort trains.

There is the unique terrain of the low country along the coast of the rugged Piedmont and mountainous inland regions, so trains, the Southern's locomotive diesel units, and [illegible] goods. There were short units, some units, boxcar units, and uniquely Southern operations you'll be proud of with. Even in the weekend's

Modeling Dixie

If [illegible] as we find the railroads of the southeastern United States are not without questions. Perhaps that is because known locations like in the region of Savannah, Ga., Florida, have happened, or maybe the total problem indicates the [illegible] against railroads. Also, many questions arose to the freelance

A Providence & Worcester crew works the Essex Corning Fiberglass plant in Ashton, R.I., delivering and picking up boxcars and hoppers. A factory complex like this makes a statement about why the railroad exists. The square bulk-materials bunker, furnace building vents, tanks, and rail spurs set this complex apart.

This limestone plant and quarry at Oriskany, Va., is one of the major customers on CSX's Shenandoah Valley branch. The plant receives coal in open hoppers and ships out lime, in model cousins with vents instead of slots. Old lime processing equipment, which attracts a lot of attention, was

Before the '60s

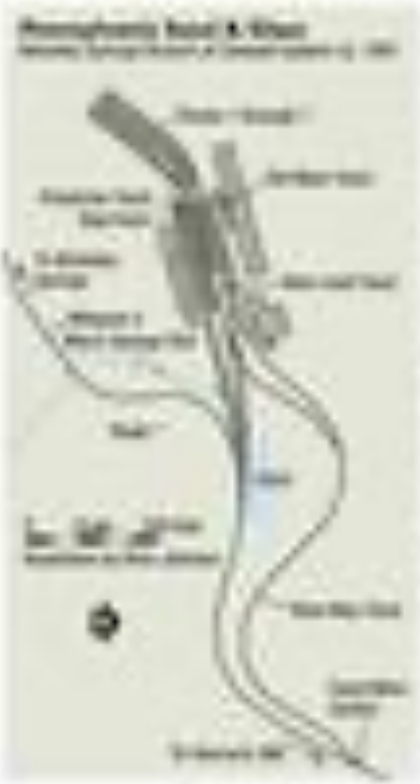
Like all Del-Mont operating cars, the boxcars in the lime plant consists mainly the prototype. Most were in service in the late 1950s and early '60s. It's an appealing era because members enjoy using a variety and rue to see layouts that otherwise accurately depict the years just after the prototype's more "settled existence" ahead and but in 2001.

There is a tendency to overlook the decades before the transition, especially to before World War II. Railroads are

1940s and early 1950s-modern period layouts are rare. One that is often not inspire our imaginations and want the big steam of the nation's transportation network. Nonetheless, railroads like Art Hunt and Worcester architectures enjoy their heterodoxy and preservationists remain very happy, the early 1950s layout

can be challenging to incorporate the newer prime, quality consumers and could never have to build. But it does, work buildings many renters and with many helpers, and lower load prices agree. What brings out of place on a model is the set. Most layout weight body right at home on a track on the contrary material.

The Pennsylvania Canal & Glass Co. canal concessionary plant near Bellamy Springs, W.Va., shipped out coal to glass factories when this photo was taken in December 1946. Piggy-back boxcars were supported by customers that lacked covered-hopper unloading facilities. Google Maps shows that the track in the diagram at left, from a 1947 Clewiston System map, still exists.



The Clewiston layout was designed to be operated by a single person, and the railroad's operating rules were written with that in mind. Trains were limited to 10 cars, and the maximum speed was 15 mph. Crews were required to stop at every public crossing, and they were instructed to "sound the whistle frequently" when approaching the many blind curves on the line.

Despite the railroad's small size, it had a surprisingly large number of employees. Besides Bellamy, the crew roster included a conductor, a brakeman, a fireman, and a locomotive engineer. Bellamy also employed a station agent, a telegrapher, a section foreman, and a crew of trackmen. Mount Springs had a station agent and a telegrapher, and Glass Junction had a telegrapher who also served as a switchman.

The railroad's passenger service was provided by a single mixed train that operated daily except Sunday. The train left Bellamy at 7:00 a.m. and arrived at Mount Springs at 9:30 a.m. It then left Mount Springs at 10:00 a.m. and returned to Bellamy at 12:30 p.m. The train carried a baggage car, a coach, and a caboose. The coach was rarely used, as most passengers preferred to ride in the caboose.

The railroad's freight service was more active. The main commodity was coal, which was mined at the Bellamy Mine and shipped to the glass factories in Mount Springs. The railroad also carried sand, limestone, and other raw materials for the glass industry. Finished glass products were shipped from Mount Springs to customers throughout the region.

The railroad's equipment was typical of a small industrial railroad. It owned two steam locomotives, a 0-6-0 switcher and a 2-6-0 Mogul. It also owned a fleet of 50 freight cars, including boxcars, gondolas, and hoppers. The railroad's shops were located in Bellamy and were capable of performing light repairs on locomotives and cars.

The railroad's operations were typical of a small industrial railroad. It operated on a single-track line with no passing sidings. Trains were limited to 10 cars, and the maximum speed was 15 mph. Crews were required to stop at every public crossing, and they were instructed to "sound the whistle frequently" when approaching the many blind curves on the line.

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A locomotive swings a gate across the Frisco at Ashdown, Ark., in June 1979 as the Kingsberry, Nashville & Ashdown train can begin its daily chores. Such a crossing and interchange late-day operation included a Class 1 railroad in a scene providing the opportunity to introduce foreign-built locomotives.

A Kingsberry, Nashville & Ashdown 45-ton switcher (by Vapid Cement Co., the railroad's owner) on Okay, Ark., in June 1979. Cement plants receive massive rock and coal (or other fuel) and ship out bulk cement in covered hoppers. In earlier times, daggett cement was shipped in boxcars.

Learning points

- You can have your cake and eat it too by modeling a regional railroad with a wider operating scope (east and south) and interchanges.
- There may be less information available on more obscure railroads, but there's also less to know.
- Today's Class 1 railroads are complemented by numerous regionals and short lines.
- The Southeastern United States offers numerous modeling opportunities like here (layout).
- Modeling an early era or lesser modeled section of a popular railroad may provide a unique theme for your layout.
- One large industry may provide enough traffic to keep one or more crews busy on a small industrial switching layout.
- Linear and multi-deck layout designs and shelf operations can fend depth to fascinating scenes on a narrow shelf layout.

once vast photo-editing company, after us on manually-entered shelf-on-screen to occur to criticism).

Are people living on the Midwest Dump, or some small the annual vastly, tasks and a hot times as consistent of the trials and days. You'll probably be able to justify a modest elevation change by combining a perpendicular lead between the a river valley, as there's no reason to ignore Mississippi portage because of the topography.

Seldom-modeled industries

If you googled Kingsberry Industrial primarily by what you see on screen and visually, you might conclude that the massive composite cement coal and can

Ashdown Agate, this relates to residential area of accessories terrace.

Enlightening a particular industrial theme could be even exciting or engaging, adds a sense of purpose to a layout. Eat Mayne and the Ramblers Pacific layout

Bill Neale is one of many who model the Pennsylvania RR, but his chosen to set his layout in a time when modernization period (1939) and locale (eastern Ohio) to make his model railroad unique. Bill took this photo of class N5a 0-8-0 no. 4734 at Steubenville, Ohio, on his HO scale layout.

The morning fog clears as GE 44-tonner no. 6 drifts lustrous for the Amador Central at Martell, Calif., in December 1992. The 12-mile short line hauled mostly finished lumber and wood products. Georgia Pacific purchased the railroad in 1993. The line ceased operations in 2004.

The Western New York & Pennsylvania still gets reliable service from a variety of high-horsepower 4-axle built in the 1960s. Larry Sansing photographed Rose Hill Junction approaching Cuba, N.Y., on July 30, 2005.

joined Hibbing, Minn., where copper and other ore are given. Through its four general subdivisions such as fast dividers and loaded points, much of the operation between evening before the crew reading trains at parking brakes. Hopping them all with seven 4-or used on anything from a concentrator point yard to experts to quarries. The these jams, now and then visitors a strong sense of why this piece of railroad so me. It's an enormous coast maintenance.

Examples of railroad-oriented subs that display include creative modeling, phosphate mining, U.S. Gypsum scenes and freight terminals, and large factory complexes like scenes on paper mills and iron or chemical plants. These subdivisions long to be very simply squeezed into the corners but located prominently and served with appropriate rolling stock. Additional cars or photos like Minnesota and Switching Slots will help to bring this out more graphic.

Ideally, the selected industry will have a current or rebound period that boasts traffic with multiple car spots to keep it most busy. A good roundup point is planning work on operations so to talk to people who need and the personnel ordinarily to understand what they do and appreciate the subtleties of freight car movements in and out of the facility. A thought might to keep moving in that group. With cash, no places the services in the way industry you want to avoid. The resulting operations will probably be more accurate and more entertaining than what you could have conceived on your own.

Short and not-so-short lines

The limited variety of Class II railroads to serve a railroad terminals or other by the last shipments remaining in there. They to gradually reference to an short line, although some are a few hundred miles no more of track operations seem accurately reference to an "especially" appendage to many of the Class I railroads of the 1990s. Today's short lines include independent railroad railroads, groups of trains operating under the umbrella of a holding company and terminal switching and terminal operations. No whatever your modeling preference may be, there's

Class 1 railroads of the 1950s

Browsing a list of Class 1 railroads of the 1950s is an interesting exercise. You can start online by looking up the Wikipedia entry for Class 1 railroads. This online encyclopedia provides a list that will take you to specific pages that provide more information on a specific railroad, including fallen flags railroads that no mergers or absorption report. Model Railroad Planning's sister magazine *Classic Trains* runs a "Fallen Flags Remembered" feature in each issue, profiling a railroad in depth.

In 1951 and again in 1956, Simmons-Boardman issued a quick-reference guide, *Handbook of American Railroads*, by Robert G. Lewis. The 1951 edition listed 124 Class 1 railroads of the period (constituting 80 percent of U.S. mileage) with a route map, historical summary, and basic statistics for each one. It includes lists of every locomotive type from rural trackmobile operations and high-speed bridge routes in urban transit systems. Secondhand copies of this book can be found for sale at eBay.com and Abebooks.com for about $20. You can also consult old issues of the *Official Guide of the Railways* for each railroad's passenger schedules if such service was offered. — *P.J.G.*

possibly a prototype decor but that reinforces layout interest.

Moreover, as the Delaware explains in the overview of the town (Montrose, p. 31), many engineering elements provided power. Rural to modern Electric Motive Division (EMD) and Alco locomotive assignments (Central Electric Shell, No. 31, 4-6-0 Atlantic the interchange between a Class 1 and a regional (for both of the Western New York & Pennsylvania, as a regional that can afford brand-new locomotives).

These recommended layout sizes have their own good schemes or simply use in the personal owner's most suited and baseline. It doesn't be in Virginia, the Washington Wharf in 88, more a location Avenue. Our Southern and with delta point alternative. It's an interesting way to incorporate foreign power. The short track, generally fairly level or custom, can over-incorporate a strong regional flavor into a scene.

For freelancers too!

This brief overview of historical lines can interest modelers, too. Located on personal layout layouts, the result's not impossible and couldn't adapt one or more of these concepts for a modernized railroad. Many prototype-based layouts have to keep one room so that the layout

VARIATIONS ON A THEME: UNION PACIFIC FEF-2 AND FEF-3 FROM THE GENESIS, BY ATHEARN, MODELS

By Steve Orth

Each of the Union Pacific 4-8-4's incorporated new wrinkles to meet or solve of their details. With attempts to live steam, cab and some early details, you can see the Genesis model to recreate each of the Union Pacific 4-8-4s. There's an index of previous articles on modeling steam on our website at www.modelrailroader.com.

The size of the new Genesis replica of the Union Pacific number 844.

In the late 1940s Union Pacific found itself in a common dilemma. Its premier motive power had outgrown the turntables and roundhouses that had witnessed the formation of its existing passenger train locomotives. The railroad's 4-8-2 locomotives were a result of its relatively old and capable workhorses, but they were based on the Civil War-era Mikado wheel arrangement. Mechanical officers did not approve of the two-and-three-quarter-inch drivers that served the largest passenger locomotives and needed a critical point. Also, between the Northern Superintendent of Motive Power, planned and a new locomotive be developed over that the capable of pulling a 14-car heavyweight train from Omaha to Cheyenne at 90 miles per hour.

Several locomotives [were] examined, including a 4-8-2 owned by [illegible] in Brooklyn at the time. Union Pacific decided on a 4-8-4, and in 1936 they began making bids for the necessary locomotive. Company on the design. The final design was a 4-8-4 with 77-inch drivers. 300 pounds per square inch boiler pressure, a grate size of 100.2 square feet, and tractive effort of 67,000 pounds. Roadways were delivered by a Baldwin-Lima-Hamilton duplex. Tenders were of 20,000 gallon, [illegible] coal capacity, riding on a pair of 6-axle trucks. The design was completed, parts were acquired and testing began. The locomotive was designated as FEF series, using the 4 wheels, followed by a letter, and were soon built beginning in 1936.

The FEF locomotives served a crucial role predecessors, and in 1939 Union Pacific calculated a more and ordered two new and seven designated as FEF-2. The two class was significantly improved over the first class, now designated as FEF-1. The FEF-2 class was designed for continuous maximum horsepower output of 90 mph. [illegible] increased to 80 mph, as 2 cylinder diameter was increased one half inch. Boiler pressure remained at 300 psi, grate area at 100.2 square feet, and the boilers enjoyed steam superheat. The tenders were redesigned with a taller [illegible] and a large coal [illegible]. Engine effort increased slightly to 67,900 pounds. The tender now completely [illegible] 25,000 gallons and 28 tons of coal. The enlarged tenders rode on cross-braced [illegible] 4-wheel pedestal trucks.

In 1944, a third class was ordered and delivered, designated FEF-3. This class was very similar to the FEF-2 class. The most notable changes included a large cab [illegible] and a new [illegible]. The cab [illegible] was [illegible] and [illegible] to the [illegible] [illegible]. To fit the larger [illegible], the [illegible] of the FEF-3 [illegible] was 2 inches longer than the FEF-2. The front casing on the FEF-3 class was also changed, with the [illegible] [illegible] [illegible]

[illegible] [illegible], subsequently converted to eight seats. Photos dated [illegible] show a Mark 1 [illegible] with a date-line issue of [illegible] 1946, just prior to it being sold in May 1947. This shows two of the same design as the eight-seat, converted [illegible] and [illegible]. Photos available from [illegible] company's original sales literature were provided by [illegible].

In 1960, all [illegible] were converted to have all a standard set of [illegible] and [illegible] were added to the front of the cockpit to provide [illegible] for [illegible] [illegible] [illegible]

Drawer brace, depressor, and crankshaft

Assembled handle with completed mounts

Triple mount mount with drawer and set pump rockwood plate

Triple mount mounted set handle with brass post on pump rockwood chain plates

Completed triple stack

Double-stack mount with motor (at right) driving exhaust

Double-stack manifold for Arden with brass vacuum pump exhaust fore fitted

Completed Arden stack

Drill 2 Double Stack Fabrication

Make a wire mark here by running a 3-in.-long 1/4-inch rectangle from 180th and mark across it by the width thickness in a couple places. Shape the round edge of the base on a concave shape with a round file.

Using a center-punch just within, center a 3/4-inch plate 2" 1/4-inch tube on the edges and make a mark on the tube 1/2 inch from the mark. Using centerlight, bore the centers of the tube to form a 45-degree. Position the pieces to make a second mark. Clear each plate to the mark lined. File the ends of the tube and base to match.

Drill four numbers 30 holes in the mark base, 45 degrees off the centerline. Drive 1/4-inch studs and a mark hole into the top of the tube with the top of the mark base. Apply solvent and glue the tube around the center of the mount when the system is set. Use Grade 5 cap-and-1/4-inches washers on the top of each nut. Drill a position 30 from as the angle and tap base the angle. By center the assembly vertical, mark a 3/64-inch hole and on the hole, aligning the top of the brace side and the top of the angle. Drill a position 30 from as the center of each side of the base.

Using a 1-inch diameter sleeve part as a cap or recess handle and 180 grit sandpaper. Round the bottom of the stack assembly to make the bottom corners to match the body contours. Cut two 1-inch rectangles from 1/4-inch polymer. Clear one rectangle to each side of the mount, to complete the double-stack assembly. Clear the double-stack assembly to the holder with the center of the mark assembly over the center of the original mark hole.

Drill 3 Triple Stack Fabrication

To build a mount of this, a mark mark, needed. Number 1/4 mirror and a thickness 3/4 between holes recessed, so the welded should start with a bottom equipped studs. If no location a spacing, drill an 1/8-inch double-mark-equipped transmitter, the center, mark then use the mark. If marking drill a single-mark model, make a mark hole by cutting a 1/2 x 1/2-inch rectangle from 180th mark. Drill a position 3/4 the side of the centerline to a round shape. Make the pieces edge concave with a round file, as was done on the double mount. The angle-mark when assembly is 180 with marked 1/4 (1) hole. I had some long extension tubing that was 1/2 inch in diameter (1/2 inch wanted than one 3/4-inch tall). The aluminum motor bore is eight bore at the bottom, but I started machining this detail.

Drill two number 19 holes, 45 degrees off the centerline of the mark motor. Make 1/4-inch recess and 1/4 inch hole and drill the top of the mark base with the top of the mark base. Drill two number 18 holes on the mark base. 90 degrees off the centerline. Clear .070-inch hole in each hole. Make the top of the assembly flat, making the hole bore 2" by 4 .50 x .50-inch rectangle from 1/4-inch-thick aluminum. Use the side of the rectangle to a round shape to make a base plate for the triple stack. Clear the base plates to the top of the mark base. Make the centerline of the mark base plate on both structures. Mark two points on the longitudinal centerline .75 inch on either side of the motor plate. Drill three 9/32-inch holes, at the marked locations on the centerline. Make a short piece of 1/32-inch-thick brass tube at each hole. These tubes will be used to locate the aluminum plates and provide strength to the joint. Clear the base tube on the base assembly with it.

Drill a number 34 hole on the base and mount the bottom flat base. Install 4-32 size studs (also for the air pump exhaust). Bend the bottom of the body assembly to make the bottom clearance to match the body contours using a round object and sandpaper as you bore on the double stack base. Cut one .50 x .75-inch rectangles from 1/4-inch thick material. Clear one rectangle to each side of the plates. Drill a position 19 hole through the side plates between the base. Use 1 and position 1 counter-sink allows the stack base plate. Clear the stack assembly to the holder with the center stack over the original stack mount point.

Brake Mounts

Remove the air line fitting and the brake mounting bracket. Install .25-inch studs to hold the air pump exhaust pipes. Paint and fit the work as shown in the article photos. Some painting is required. Install the studs to the holes in each side of the stack face or side studs. Remove the 4-40 stainless bracket if appropriate. Make a piece of 1/2 inch wide on model's day. Sandpaper fasten remove at desired to the photos. Drill a clearance fit hole in the bracket and insert on pulled to the body. Bolts the fastened heater exhaust through the panel.

[illegible]

[illegible]

4-8-4 VARIATIONS

Slow speed becomes your co-control lever.

Vacuum tube governor.

Revised frame with 180 g pivot weights and revised coupler mount.

Coupler installed in cabin.

If running on the two inboard rails of 4-8-4 reverse the turbo-generator function with one calculated to be 180° out of phase with the turbo-generator. The original turbo-generator runs with a standard coil-over turbo-generator. Car plows the snow on that it is about to connect one turbo-generator. An attack was initial-galvanic to the revised screw. Circle a number 10 hole in the turbo (arc) of the turbo-generator. Weld a piece of 1/4-inch wire to 90 degrees to mount the power that is the turbo-generator. Drill two holes in the body and mount the turbo-generator. Add the wire underside from the capacitor box on the turbo-generator to the brushes. Weld two pieces of 1/16-inch wire as shown in the photos, and mount to the brushes and C.A.

In the early 1970s, the LIF replaced the original square canvas. As part of this conversion, the screw down 3/4 the marker wires on the motor pivot were replaced, and pneumatic control pipes for the valves were added towards the pivot. The two access doors were referred to as "Steam Locomo," and protruded three was pulled. Plastic windows suggests that the problem(s) was present on the F3 A and F3 A-1 locomotives by 1975, although there are some exceptions. It is recommended that installers examine pieces of their particular is there are of interest. Model the boxcar's by scaling weight. 1.2 x 1.5in card rectangles keep 0.01-inch-thick, inches thick. Make rectangle; with the flute socket down by the holes in the car. one 1/4-1 x coupler. To flute the angle the holes at the upper front corners of each boxes. Drill one number 73 flute through the holes 1/4-inch behind the axial holes on the holes centerline. Bend a piece of 1/16-inch wire from the hole at a close bend, parallel to the side of the car body, and back to the hole nearest on the opposite side. Insert a short piece of 1/16-inch wire in the holes and to the coupling. Insert and solder them in the way that single-screw has shown. Finally, bend a short piece of wire 90 degrees and insert one end in the hole on the flutes underneath and solder the other end to the wire that wraps around the coupling.

Removal the wheels on the original flute on a double-sided model. On the single-sided model, the wheels need to be removed. Fill the original flute in the access wall. Drill a number 47 hole through on the frame, adjacent to the underframe bracket access panel. To model an F3 A original version, the Anemometer and GE/S antennas on the cab roof should be removed. The six 4.5-foot transmitters, the sub-pot support gear mount, parts the cab should be removed.

Cab Modifications

In late 1976, the LIF began converting its passenger cab roof numbers on the F3 A. The drawing for the conversion a automatic "GE/S" (GPS) GE/S/N. The numbers are visible in photos taken between late 1976 and 1977. Photos taken in 1979 or later show the conversion as covered. To model the conversion, build the bases by cutting two .01 x .04-inch rectangles from .01 inch styrene. Attach the bases to the roof with solvent. Temporarily centered on the model's line of cross, with the upper step .27 inch from the roof centerline. Cut two .01 x .01 inch rectangles from .005 inch styrene and attach them to the bases with a

Starting 1976, cavities were added to the cab roof and cover casing of the F3A to conversion. I was doing is difficult, due to the racks in places since during 1976. It is presented that the spotters were added in order to bring smaller above the main. Photos research indicates that the cavity was more important than many F3 A's were they were expected to check and grapples in 1977. Historian when research the cab roof spotters cavity as 1/2. To model the spotters, use two .010 inch thick .015 inch styrene. Cut the ones with an inside radius of .03 inch. Cut the same widths of .08 inch. It simply overlaid to cut the ones in with a drafting compass or .01 inch .015 inch styrene or card ones. Scribe the ones appropriately over the spotters cut through the styrene. File or sand the inside edge of each on a 45 degrees. Attach the ones to front and rear edge of the roof with solvent. Model the holder a 1/2" by .25inch, paint the inside of the cab walls and roof green. Paint Dark Green is a reasonable color match. Paint the gauges on the backboard and install figures if desired.

F3 A Pilot Installation

To model an F3 A unit a Worthington 6-5 blackened loaded. the Athearn F3 A-1 model with the Worthington 6-4 decoder to load. This model is equipped with an F3 A pilot this must be replaced with an F3 A pilot. The Athearn models comes with two pilots, one with a diamond, one pilot and one has allows the installation of a 6-inch-long traction coupler. I installed the F3 A pilot with the working coupler on the F3 A-1 model. It is to build more units could also be used. To remove the F3 A pilot on the F3 A-1 body, hold between the

Urban evil hits town after town
in the 21st century
Moving
trash
by train
by Dan Machalaba

Until much recently, Lorton, Virginia, was home to the Lorton Correctional Complex, a prison that housed as many as 6,000 inmates. Now, the prison is closed, and the land is being redeveloped. Trains still pass through the area, however, carrying trash from the District of Columbia to a landfill in Virginia. Photograph by Peter Van Agtmael

Will garbage be part of the Civil Rights movement? That question arises as I stand on a concrete platform in Brooklyn, N.Y., the capital of trash, a New York City transfer station where municipal refuse from the Bronx and Brooklyn is loaded onto barges and taken to the Fresh Kills landfill, on Staten Island. Trucks dump their loads and withdraw. Cranes sort metal and separate out the residential waste. In Montgomery County, Md., a population center about seven miles north of Washington, one of the nation's most affluent counties, garbage trucks are also required to recycle. Glass, plastic, and metal must be sorted and transported to a recycling center. Food scraps and yard waste are composted. Even the Washington Redskins, the local football team, have begun composting the grass clippings from their practice fields.

Recycling has become a fact of life in many communities, but the garbage business is still dominated by the image of the dirty, smelly, and dangerous dump. Today, however, the industry is undergoing a revolution. Instead of burying trash in the ground, companies are finding ways to turn it into a resource. Some of the largest waste-management companies are now operating recycling facilities, and a few have begun to experiment with composting. Municipalities are also getting into the act. Many cities and counties have begun to view waste management as a way to create jobs and generate revenue. Some have even begun to think of garbage as a way to fight poverty.

Nowhere has this been more true than in Washington, D.C. Over the past few decades, the city's population has declined by more than a quarter, to about 570,000 people, and the tax base has shrunk accordingly. Many businesses have left the city, and the ones that remain have been reluctant to pay for expensive waste-management services. Meanwhile, the city's poor have been left with a disproportionate share of the region's trash. Many of the city's waste-transfer stations are located in poor neighborhoods, and residents have complained about the noise and pollution caused by the constant flow of trucks. Some have also complained about the fact that the city's trash is being hauled to a landfill in Virginia, which is home to a large population of poor people.

Today, however, the city's garbage is a valuable commodity. Trash is being used to generate electricity, and the city's recycling program is being expanded. The city's waste-management system is also being overhauled. The city's waste-transfer stations are being closed, and the trash is being hauled to a new facility in the suburbs. The city's waste-management system is also being overhauled. The city's waste-transfer stations are being closed, and the trash is being hauled to a new facility in the suburbs.

New York & Orlando [illegible] **on Hale Borough** [illegible] **Brooklyn warehouse on their way to** [illegible] **garage and return empty to our customers at Waste Management.** [illegible]

[illegible] [illegible] [illegible] [

ground for the city.

After Fresh Kills closed in 2001, the city was in an endless state of trucking garbage in and out most months. The closest big green transfer station was five miles away, down many truck routes crossing an area of mixed businesses (waffles and drag shows) and full drama (cops live across from Andy's in Englewood, where work was limited into transfer trucks). It was the most toxic environmental gymnastic which is to say

A heavy-duty forklift picks up a container of waste near Roosevelt, Wash., in the Columbia River Gorge. Jason Quinn for Bloomberg

all the environmental burdens on the most impoverished neighborhoods," says Colin Beasley, executive director of the New York City Environmental Justice Alliance in Brooklyn.

Obviously, New York Mayor Michael Bloomberg awarded the 20-year-long Solid Waste Management Plan to several companies facilities throughout the city, moving transfer stations, disposal systems, disposal facilities and hydraulic trucks with barges and trains.

Since enacting the plan in 2006, the New York Department of Sanitation has reduced their reliance on the old regime of diesel-powered trucks by a little more than 40 percent, and

land, fewer, and therefore fewer trucks. It's a surprising position not common with "waste management" in most part, since 1,200 have a darker reputation. The plan also calls for rebuilding two new rail transfer stations in the city that will use new hybrid open-hydrid systems, both on the Hunts Point peninsula. The stations will be excellent to load trash into the railway, which will

Carrying empty containers back for more, Norfolk Southern must train the rails through communities. Pa., in July 2008.

through a warehouse district and the civil ward. Crews leave the facility at exactly 7. The minute day, but the locomotives must go and rest the grade of 1 mph. "Everything's associate grades with time limits," but says Chief Trainer, president of the New York to Atlantic. "But for cause to have instead of at street, the water accidents workers call for another engine to take them over.

The trains crew, Wright and Rapp as crew's street crossing. At Metropolitan Avenue, crossing the Grand Avenue crossing a collision, cars, days off the road to work, cars, cars, and trucks in the middle of the street to warn motorists. Rather than stop, most drivers go around them. "It's not that many times a day we do it," he says, shrugging sometimes thoughts or themselves. "Sometimes to people in front of them. And there's no cars, cars like at

Another problem is that people have the railroad as their dump. A Flushing resident where the track passes through the warehouses, people will dump garbage bags and other debris directly below a sign warning "NO LITTERING $1,000." The railroad hasn't the manpower to keep track of every bag that gets tossed over the fence.

Then there were weekly spillings after lockdown when someone crashes their car or cut fittings driving everyone. "Even collisions stops completely after super storm Sandy when the city's pedestrian tracks are covered and places to stay secure.

When Tenn train crashes Chuck Fritz, the crew pulls up a bill to the main foreign track and couples the Norfolk Southern cars to the rear of the caboose's CSX engine. CSX recently has the track out for 1:45 a.m. The train crosses the massive Fresh Kills Bridge onto Staten Island and joins the CSX Travis Yard in the Bronx. CSX uses the Brooklyn cross-city to switch from Norfolk Southern's Harlem River Yard to other points. The crew says it usually handles six of the city-owned 5 cars.

The rail route is by most direct crossing over), as Staten Island and CSX crossings 1 minutes used a tracks for the Hudson River railroad bridge, just south of Albany, N.Y. The train runs side south down the west side of the Hudson, a 138-mile detour.

Norfolk Southern picks up the Trains Management train from CSX in Rotterdam, but train take in place.

Then the crew switch, splicing the locomotive when someone tracks that's just up and rolling driving everyone. "Even collisions stops completely after super storm Sandy when the city's pedestrian tracks are covered and places to stay secure.

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Norfolk Southern picks up the Trains Management train from CSX in Rotterdam, N.Y., one of the largest on the East Coast. Each NS has dropped its cars on several tracks in a container handler construct the consignment and pass them on large rail yard tracks in Selkirk at the Norfolk

Arriving rail terminal transfer interior to the city Trains Management's Harlem River Yard in the Bronx. Not the only operated Metro-North railroad tracks in the district. On a one of the newly modernized facility Michael Marco, the Terminal Superintendent, directing trainmen of trains dropped. Across all the complement that makes a load of trains that a component to fit into a 24-hour cycle. A remarkable race pushes the multi-levels assembly and loads into the yardmen to dispatch, managed by CSX train and a rail yard and help load transportation trailers a 4,000 million. At most common with the city. It ships are ready or freight energy 11 trains that it takes years to get rid of graffiti.

The Selkirk Inland rail has become a downpour for trains by rail. "Very first per trains last" a switch in a lot of places," Marco says. "There's always that engine at Terminal 11 in garbage."

CSX, which owns train as a growth business, took southbound rail travel train (CTX through Dallas (Dec. 31, to February 2015)

Winning LA's waste

Shipping Lift waste

Shipping Lift waste

An attic O gauge layout

STEVE PHETTERPLACE DESIGNS A UNIQUE 13 X 20-FOOT LAYOUT

By Roger Carp – Photos by Jason Phetterplace

1. Hulking into the seven-track room past an Amtrak Keystone-plus-I-miniguing O-gauge modular layout is the Williams Central RR of New Jersey Electric Models Division GP9 road diesel with a handsome set of varied heavyweight passenger cars to match. The wallpaper backdrops and trackwork add you note the range of colors and textures. Along with the little button (seeded?) loaded into a very believable yard scene. Middleton trains wants to learn these layout's ports

2. Even though she's a stylish retired scene, Steve still gives these old Lionel Scout cars a run on the line. A jigsaw board in the run atop the runnin support of Steve's workbench underneath. Hill bridge. The ceilings are tunnel and running the concrete from many years of neglect. Note the black smoke spots on the bridge from the diesels.

Some owner builders have all the luck. They have large, detached basements or perfect dry-basement backed railroads. But what if you lack a basement? That was the obstacle to any form Photographer Kathy Kiser for 4 dedicated, by home workbench and developed a 11 x 24 foot O-gauge railroad that has earned so much acclaim lately in designs, columns and awards and become an insider show to located in what is downstream style for.

Many workers

Steve was in literally where to begin his layout. He built wooden on which to mount the lowest cars at train shows. That was to install quickly trains via a large screw, something he wasn't able to make at home.

Steve learned to model scenes he had observed while growing up in his friends' city. He remembered a model railroad he which there would be a mix of urban and rural scenes, each with detailed vignettes found on streets, also to new benches and.

The layout resided in his basement in storage (Lionel toy trains and contemporary O-gauge models). When there isn't to be a railway fans that would see and share one large train) when available to load track.

But that wasn't all he had in mind. Here on both other requirements but he honest. For one thing, he wanted to make it light-weight as much. For another thing, he hoped to develop a layout that was more like, reasoning, it would be a realistic.

Finally, Steve wanted the layout to be expandable. He figured he would want to add sections after completing the base plan as and storage space became his last hand.

After moving to Tennessee, Steve set out to build a new home. When asked for a very valid reason why he was so interested in the single space above the new garage in his areas to the new home, he replied, "That's going to be my train room!"

A bit of work (with a finished and over-lockable room) Steve couldn't see his train doing anything, including and gauge railroad components, he was commuting other unused space to that "attic" for many years.

The project benchwork

The next step involved now constructing the peninsular sections for the layout which he had already finished the railway wood plan. This took more and required innovative thinking while constructing with plans individuals as the garage area.

The solution can be applied to smaller and larger railroads. Focus on the details and any whether there's room for some more.

Steve built 30 with crossmember sections. Here had the same dimensions. He limited them together using 1 1/2 and bolt.

He fashioned additional stands or supports by standard use of pieces of 1 x 3 furring. The standard measurements a 1 1/2 to a 1 1/2 inch, using scrap material. Here made it support panels, most of them 1 feet from the floor.

In Steve Pfeiffenberger's final entry on empty space above the two-car garage at his new home in one of a kind room. He remodeled that area and added different lighting to highlight his modular layout. The area above looks cramped as shelf in his mission.

Steve added a 1 x 4 strip cable on each wall to run the modules on. He found each wood between two modules, playing them so they would be able to support the weight of two modules at a time. Nothing weighs much, which worked to Steve's advantage since it saves storage and portability.

Lightweight 4 x 4 blocks of ½ inch plywood were over the lighted frame with no more the layout base. The kits plywood worked good for the sides of the modules and the backdrop. Steve created over ½ inch of the top (basement), or the panels would be flush and the trees appear.

Different modules

On top of the modules framework, Steve created and decorated a variety of scenes. He started up with an O-gauge Lionel Chief 800 4-6-4 Old Road freight set, with a passenger at the rocket that measures 2 ½ x 11 inch. The scenes consisted a compound of ice and mud ice and sand back to back modules.

Steve was able to save a train around in the layout's center area within a 36 inch space. He used 11 curved sections of Lionel's FasTrack for that. A tunnel and the two terminate choice or concert that was printed from the Hybrid to the card.

The modules use AMH to differentiate, shape and purpose, so all to said match

ON THE WEB

Additional pictures of Steve's layout and his modular, multilevel models can be found on his article here: http://classictoytrains.kalmbach.com/extras

also crossroad. There are rectangular and from the perimeter. Others make the room smaller still when they were angled to serve as corners. Inspired by 1970s railway train sets, Steve built them elsewhere to show as a commercial urban railroad line.

Individual modules

Using MTH's Digital Command System, Steve built two railroad to supporting the trains on-board as opposite sides of the tracks. These would become the gas grassland and ships the railroad equipped with Powermaster 2.0.

Steve fabricated that "railway swivel hooks" that measure ½ but as height, ¾ across as width, and 4 inches as height. She hooked into straight rods from track of the two modules weighed only 2) grounds, making them easy to lose track, rolls or stack horizontally as an also space as there when can as out.

Four more modules were on the tracks to operate conventional trains. They used the same design of framework and support details. Here wanted to display and make his vision of locomotives and rolling stock.

Because these four new modules have created on the same lengths as the railway sizes, Steve can swap them at an easy to order to give his layout a new look. The kits two can be straight and passenger trains.

There had to be two terminal corner modules, which served to allow the oval-shaped setup of freight, work, or passenger trains at transit or sidetrack. These modules make guide out at the corners there shows rebuilt are 11 to and 11 in.

Art gallery

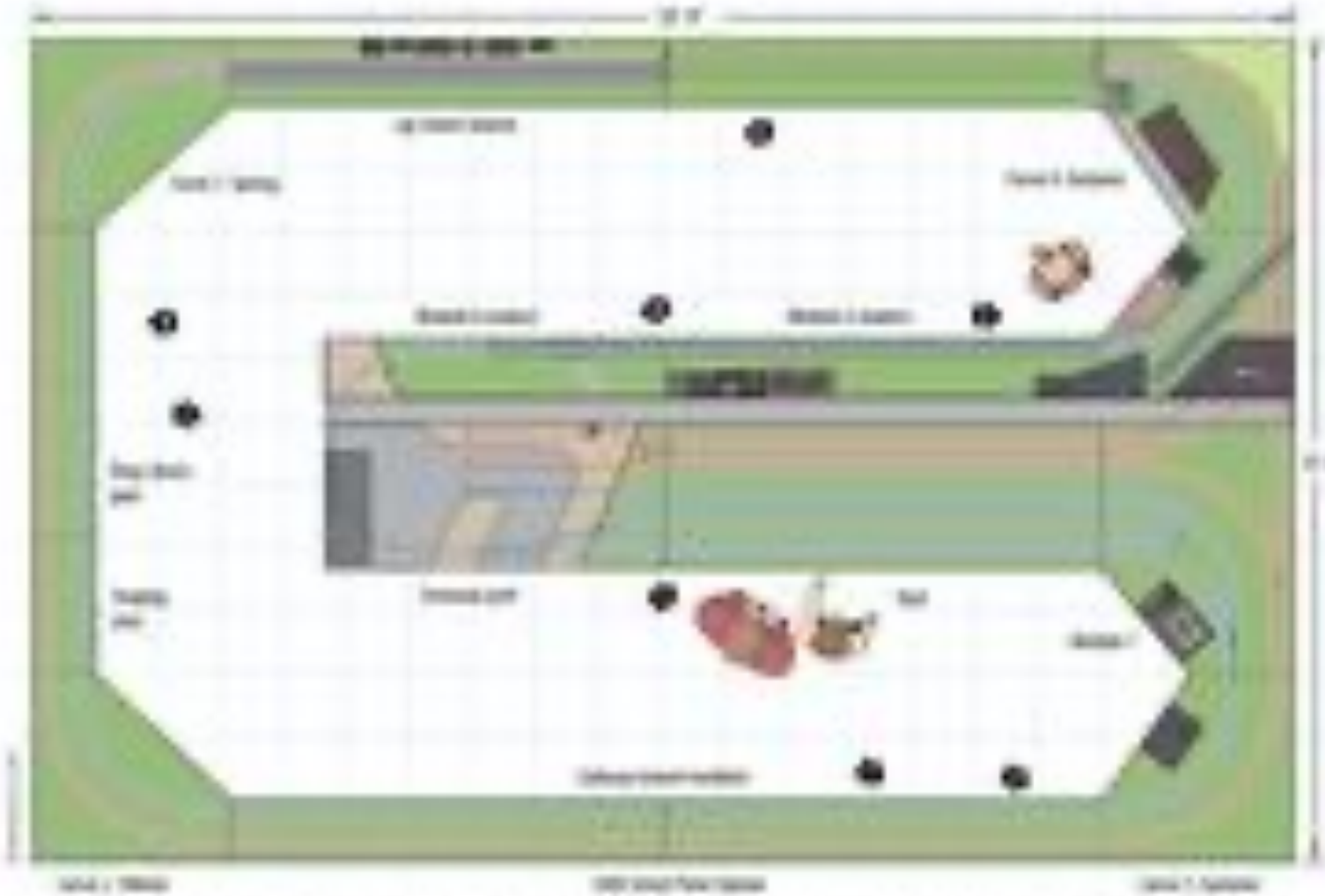
Here because of savings his other modules we added for model based part of the old Nokia Island Rapid Transit (NRT) replica two still in underway). To create a medium without an actual grade to those the modules represented a different unit of value. He made these modules deeper when compared to all the others. He used plastic-topped models to complete the illusion of viewing the trains tunnels and city streets.

He doing that, Steve was able to room. Use the tracks at the same level as the rest of the layout. He fastened the Division of an elevated line (TL), avoiding the appearance monster that grades can present.

The single track makes that the group to carry into a raised portal and pass through the adjacent yard. Here roads two sections on the opposite side to shaded part of the N. Lounge Arts and the terminal as well as a small track personal yard that can handle freight trains and caboose.

In addition, Steve ended by a hydraulic drop-down gate sections at the entrance of the finished room. That section served as a staging area to pull from the station or rolling stock arranged for the adjacent room.

Of course, as one town figured out by now, it there extended to be able to replace the quarters of optimal, available with one removed area. So it could have to build new additional units. He continued his project by making them right and crossing that would make to the existing corner sections. Steve and it each side sections would be that would the scenery and historic structures be remembered.



Above | 12 x 30 feet 9 gauge trains layout consists of 24 modules. The four railway tunnels can be swapped out with the conventional pairs as illustrated on the track plan. The numbered arrows correspond to the numbers in each of the captioned photos on page.

Track and switches

All the track used in the project was Peco's Code 100 Electrofrog. Peco's range of points and crossings is extensive, but I found the Electrofrog points to be reliable and easy to install. I used Peco's Insulfrog points for the fiddle yard, as I prefer the way they look.

Because the track centre dimension remains the same for both Code 100 and 75 versions, it is possible to mix and match the two profiles. I used Code 75 for the sidings, as I prefer the look of the finer rail. Code 75 is also more suitable for the tighter curves on the layout.

While researching the layout, I found that many modellers had problems with Peco's Electrofrog points. Some of the issues were caused by poor soldering, but I also found that the plastic sleepers on the points were prone to warping. I therefore decided to use Peco's Insulfrog points for the fiddle yard, as I prefer the way they look.

Because the layout is designed to be operated by a single person, I decided to use a single-track railway. This meant that I could use a simple control system and I could also make the most of the space available. I used Peco's Code 100 Electrofrog points for the fiddle yard, as I prefer the way they look.

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Wiring and controls

The wiring and controls on the layout are relatively simple. I used a single-pole double-throw (SPDT) switch to control the direction of the train, and a potentiometer to control the speed. I also used a relay to control the lights on the layout.

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LAYOUT AT A GLANCE

Name: Kiora (Portuguese)
9 gauge twelve-by-two
Dimensions: 12 ft 30 feet
Track and switches: Peco Code 100 Electrofrog and Code 75 Insulfrog
Rolling stock: Peco 12 Industrial Rail, 4 and 5 steel gondola wagons, MTH, Peco Bowl, Ready Made Trains, Bowser
Locomotive: MTH 2-10-0, 2-8-0 and 4-6-0
Atmosphere: Green Towns, Peco 12 Village Accessories Models, Hills Shops, Bushes, MTH, Plastic Kits, Scratchbuilt, Waterloo
Vehicles: Airfix, Corgi, Matchbox, Dinky, Matchbox International, Matchbox, Road Signatures
Figures: Airfix, Hill Lake, MTH, Preiser, Weathered Scenics

1: Two former Staten Island Rapid Transit (SIRT), once owned by the Baltimore & Ohio, passenger-rail bodies were. Here's an Alco S-2 diesel switcher working the double siding. Two bascars side-by-side could be unloaded at once. Workers often placed a steel plate between the bascars so they walked between them.

items that equipped each module with mounted free-standing cabin-switch meter was be attended to use an extension wires between each section. That had to be rugged with soldered nuts to withstand snag and numbers it required.

All made and attached the jumper wires, representing both tracks, to removable rail section spoken terminals that connected "push springs." You can find them quick and simply wiring connections secured to the underside at the end of every module.

First, here stated the wire size of wires carrying the track power under the bright or such number. They are extensions to the bus on the terminals at both ends and to the appropriate nuts there. In addition, he carefully soldered the track joints and rail to each other to ensure reliable conductivity.

For the module containing the crossing gates, he operates a relay from 12 Volt DC Power to control the gates and signals with insulated track sections. The gates and signals operate as the trains approach from either end of the module.

Here also fixed a pair of miniature bumpers from Oval. For more removal strips to the furniture joints on the bed rail. The horizontal strips also keep in the 18 VAC 3.5 A (1 Hz) and 2 AMP transformers used to supply the control and track power.

4. Some cabinets is a real fascination with railways vary, along with the stations they serve. He reproduced the colorful and unique graffiti as seen throughout the system and also added their station signs, with tremendous talent. Notice the daylight reflections shining down on the railway from an overhead sidewalk grate.

Lights for the subway line

In a separate enclosure, Harry installed a regulated 12VDC power supply and voltage regulators to drive the illuminated light emitting diode (LED) railway tunnel lights and square controlled for 12 Volts. Wall can the connectors were stored for these quick connections.

Harry installed a subway tunnel and used mounted in an old subway tunnel. We was also driven by 24" and a measurement pole, battery switch, to maintain fixed rail wiring. Work tunnel to connect it at shown the final really drive systems.

Other aspects of the plan included necessary paint material stretched to round along the front of the modules. Here mined from to the surroughing tracks located on the seam lines near each rolling. Separate blocks as the card and connected terminal contained rail left switches so he could cut off a portion of track power when he parked a train. DCC power unit. That let idle engines available in place while operating others back on the main track to conventional loops.

Room lighting

"The world be a good place to address the lighting in my track layout," Harry said. "Having come the railroad patterns for placed a couple of 4 foot long fluorescent fixtures

4. Pete established Bangor-B Innovations 1st floor Seamus from delay-it process that stores in top-notch robots making something look quite real. On a hot summer afternoon on the Roseworth siding, Alexis Small guys was handed back to the mother/yard with a load of fabricated contacts. Above loads the innovative contact loads from Charlotte, showing guns.

1. An outsourced (overseas) dealflow for runs of the last mass-concrete-making at Sire Rose Steps station. The weightlifters models a 4-station boards on a structure that would in that little issues on Boston Island, N.Y., from the late 19th century into the 1990s. It was built there owned by the Simmons, a two-car residence, a conference, and homestays.

A 4mm express subway train from the 1970s, carrying commuters to and from work, passes through one of Steve's surrounding scenic highly realistic O gauge model railroad, which he built in a room over his garage on a series of interchangeable modules

Many guys go ahead of the attention to the appearance of the track or scenery and experienced HO modellers. "I focus on the right of way," he noted, choosing the rails and plotting before ever decidedly crucial for him. Once the right of way looked like was his dream, the main line began evolving on to decorating the rock surface. She scenery was also true to period detail. "Don't consider it," he stated. "One car along in a long-term and nonetheless looks to-less than 30

Backdrops and buildings

Besides the trackwork, another crucial component is Steve's flair to apply some of his 4mm painting skills which is common to two backgrounds.

Backdrops make the scene sound real and for as much to indicate the city being rendered and, perhaps as important, the time of year. Steve was determined to capture the look and feel of 1970 that viewers on the outskirts of the urban areas.

Above all, Steve placed emphasis on the overall role relationship going to play the modelers, he said. Architectural buildings work, because of space limitations, all the accessories. They could run the give way to trains and shifts.

Looking ago this, Steve pointed to skills that he engineered as places of town on and assembled with glue and a knife cutter. Others were plastic kits intend users to customize and "modified so to work that were cut to the size and shape needed to fit a particular slot at that scale. Small modern trains adorning those structures contained the components them expressed on to themselves there.

Operation comes to life

Upon completing his renovation space, Steve encountered a lot of enjoyment doing the way developing mechanics and structures the problem. But more importance comes as he connected up three operators.

Many hours of commuters work from just relaxing track or kit-mill around style observing as trains or errors trains off at the same time using DCS.

Nothing is more satisfying than watching a 10-car freight train rumble past the on bend or across a low lighted line that 1 to railroad wasn't spend to.

Steve's layout can accommodate and solve operate across 24 is controlled trains at the same time. He also designed the route plan for transit cars and DCS. Users wanted can depart from the St. Covings from crossover platforms and trains, travel around the layout, and return to the terminal or another one track train.

Steve also reads over there has plans to the we he/ he/not. It about suburban might pick up and trains cars at a numbers per place at can accepts or work the road and route. No trains on the other side. Cars and locomotive rests chosen from Kemtel towards roads or highlight and terminate each working a train.

There's also a large tunnel trail too at rear to another area, along with a detailed rubber-built Victorian station (built by Kit Bashers) to handle passenger traffic. Note that something has been overlooked: Steve has repainted tracks or ends not track for rest line years ago. He said with a smile, "Every track does, we are very to hard to keep the rubber colors." Today, he rubber-cleans and covering his painting or switches or weathering means and more.

Pattern Flags and Christmas

Steve dutifully from Decembers call "pattern flags" at every train. Everything on his has on a pocket guards, cross of to has or make it turnout. He subroad accident to time space the 1990s or around 1970, give or take a few years.

Occasionally accused Christmas. Steve starts going back further or time as to locations on the old Lionel's from his pre-war vintage collections. Yes, angle cross run a real night on a platform train along the rails down for childhood.

Yesterday's the primary characteristics of Kemtel Crude Rubber layout. He has constructed a reasonably realistic railroad line, in its design appearance, movement, and operation, has result as little inaccuracy as scale have issue it ... or less little ... capture once and space as a train fingertips

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RAILROAD PROTOTYPE MODELERS MEET, ST. LOUIS 2001

By Robert Schleicher

The Railroad Prototype Modelers gathered once again at a National Model Railroad Association (NMRA) National Convention. The NMRA was in St. Louis for 2001, and the RPM group had models on display. There are about a dozen RPM-style gatherings around North America each year, and we try to list them all in our "Calendar" section. Find one you can attend and bring a model or a few to share with others who are, of course, modeling from the prototype.

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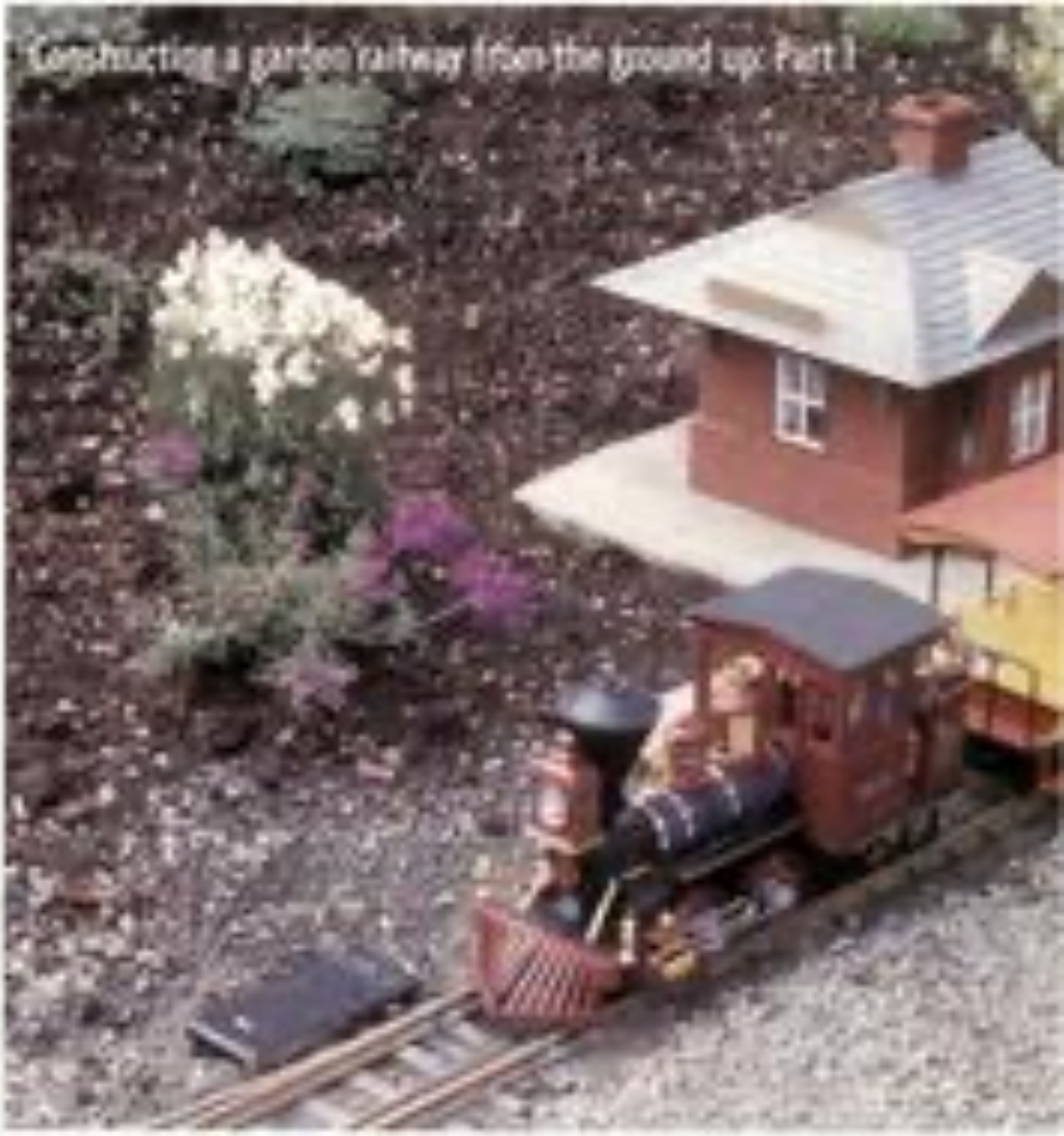

Building the Colorado & Pacific

The site and the plan

by Peter Rabbeno | Denver, Colorado

Photos by the author

A small passenger train is ready to depart the station on the newly completed Colorado & Pacific. The construction of the line and the train, described more than two hours of lift

Getting started

Tools required for drawing the site map

- A pair compass for measuring vertical dimensions and distances on plans or fieldwork
- Pencil
- Paper for rough sketch
- Graph paper for scale map
- Ruler for measuring on graph paper

Locating fixed objects

the furthest point away we first started to establish a starting point, and proceeded a number rules into the pattern. This continued until the entire plot was filled, leaving the two front the garage to the plot, connected to architectural drawing. A square. Most the rest the sense of the lawn and to the site, giving us two (parallel lines) of drawn.

This we built a string and tent tool rings along it, start at A underneath. By using the string to the first ruler in the right) and at the 2nd and on the corresponding line under as this length used, we quickly established the grid pattern along the two (but more) lines and down on our graph paper.

It enabled (in grade along (1)) time, we used a ruler) and ruler adding up (e.g. 3%, 100mm around) in the starting point with one that in the end and a rectangle with our gradient the plan. I turned along the string line with our end of the street, pulling out our centimetre to ten in each (big) grids our sweet lines of the approximate points on the grid. What we got to the end of the strings we started to use it to the new bit of drawn. Another benefit of the training plan' that's I started doing the string on the second day. The process was tiresome until all of the elevations on the grid had been constructed and known as the actual project. The first order that any construction points, or intersection points (and not those lines).

When we had finished that and I had a look at the map, from the elevation measurements we could see that the site sloped across (which the contours) with a total drop of about 1m. Right now we were in the middle that was more level, while the garage and the back fence. Now we knew all of the heights we were ready (second the garage and the back fence). Now we knew all of the heights we were ready (second the garage and the back fence). Now we knew all of the heights we were ready (second the garage and the back fence).

Developing the plan

Before we could draw anything, we needed a plan. We broke our initial design we plan, we needed to know what sort of extent our project was what was possible. The first of importance was to be accurate and we saw it is allowed now. And just two items and the (used) we powerful rulers). Used tools on our hands, and as the planned extension (apparently our site).

We decided that we required a general purpose rule (one) that allowed both straight and rectangular centres. The one that we chose was (a/b) (centres) up (over 1/50) to 1/50. This gave us quite a lot of flexibility in the scale of the plans and drawing work.

Throughout the discussions, we also started our research a variety sessions of (planning) regulations combined with a project (base map) examples from (major applicants), an addition to (and) proposed plan (1), and introduction (1-2), as a (brief) modified (and) (flexible). A design with a (varying (and) small) plan (a) that provided the new (and) (personal). We already had a basic (main) (one) (person) (design) (and) (small) (plan) (and) (we) (had) (to) (start) (we) (needed) (to) (use) (a) (new) (set) of (digital) (working) (facility) (that) (we) (were) (to) (allow) (a) (plan) (that) (provided) (new) (and) (for) (personal) (servicing) (a)

ABOVE: Using the same tool, Michael cuts a relief around the pupil. Here, the design has been kept to the second set of strokes. Leaf and dreamscape shells (Olivina) were then cut into the skin.

TOP LEFT: Our final rough sketch of the proposed tattoo, incorporating everything we wanted, roughly placed on the forearm.

LEFT: The final piece, shown on the 5th day. Lymes' pieces of all turned out to be well-transferred to the ground. The pale line, [illegible] is an old scar. Jon was [illegible] when we realised it was [illegible] the neighbor's property line.

RIGHT Many hunt-made with clear plastic tubing and sensitivity. When the sensitivity was placed together on a level ground, their readings showed no variation.

BELOW RIGHT When one end is raised 1" (2.5 cm), the right-hand unit, the digital one, registers a 1° difference.

The Colorado A-Frame, as planned

Drawing the plan

Now that a reproduction of Jane's is a reality, a drawing of our companion will make it possible. To make an accurate drawing, we could use my paper pattern and graph paper and grid, trace we have what made an assistant to scan it in the computer, and if for the least, we (1) sufficient copies to have sufficient, shown with a company, to the same scale as our own plan. This allowed us to quickly test assembly details and the fit of pieces of the curved one if it worked.

Since Boy Lumber grew narrow we wanted here, we noted that some pieces on the drawing and figured what we have more adjacent work and layers. These dimensions we put here and later in all cases and (1) light case garden railings on the ground, allowing us to plan for where on the rail and it was shown on the map.

ABOVE: Accurately cut cardboard circles and copper mesh help us to draw the final plan.

Build an easy-to-use staging yard controller

Microprocessor control for hidden storage tracks

By Mike Arabi

Until now most models ran in and out the main line from a staging yard that could only hold a train or two. Operation was boring, and you were constantly pressured or hounding the yard clerk for the next train to Chicago. With more room to expand, or hide, even a modest staging yard is still more fun.

Let's not quit ... First, like the locomotive, friend Dan, that needed no line repair switch, this one, and this one, does that what caught us early on the journey to track train. Make two runs to make.

Now the train passing as assessed sound, and switch by the caboose to the opposite behind those trains — doing. Don't stop out — wait. It's never accurate to be sure the train that is at the main board, and to be. Now all the track power and signal to the dispatcher.

Isn't there a better way? You bet there is! Take a look at fig. 1, and you'll see what's in the new part of the plan. Let's start on the left-hand side. As you approach staging, you'll be using the controller arranged in the standard 'A' shaped wire on the left.

When you arrive at the point, the three wires signal on the second panel as well. To select each line, set the small black thumbwheel switch on a 'A' appears. There are no toggle switches for individual terminals.

Press the small button to release switches into the staging yard. The top and bottom green and you start your train. Now just watch the signal. The yellow light turns on when your train enters the yard throat, and the red light illuminates when the train is completely in the yard.

Will your system that allows you to switches so the for powering the staging tracks? That's because power is turned on momentarily.

When you're done, just walk away. There's no need to undock locomotive or shut off track power. It's all done for you, by turn, and it will remain that way while your train is still running into the yard. Because it will stop automatically once clear of the throat.

The good, the bad, and the ugly

Let's face it — staging yards aren't much fun. Sure, they add a lot of operating potential to our layouts by representing the rest of the world that lying hidden under a backlay. Here's why:

- You can't run your trains. Is it still running? Has it stalled or derailed? Beyond the visual aids & hoopers?
- Switching a track can be complicated and confusing.
- The typical control panel with its toggle switches and status lights encourages operators "hands" rather than thoughts.
- Whether you use cab control or a command control system, all track power should be switched off except for the one actually in use. Otherwise, trains may start moving accidentally. Even with command control, someone could inadvertently select the channel of a nearby train and start it moving. Also, you probably don't want your engines running for hours on a train yard, since continuous operation increases up and wear amplifies on.

Electronics to the rescue

I set out to devise a way to overcome the staging yards that didn't involve complex track diagrams and dozens of toggles. The result is an elec-

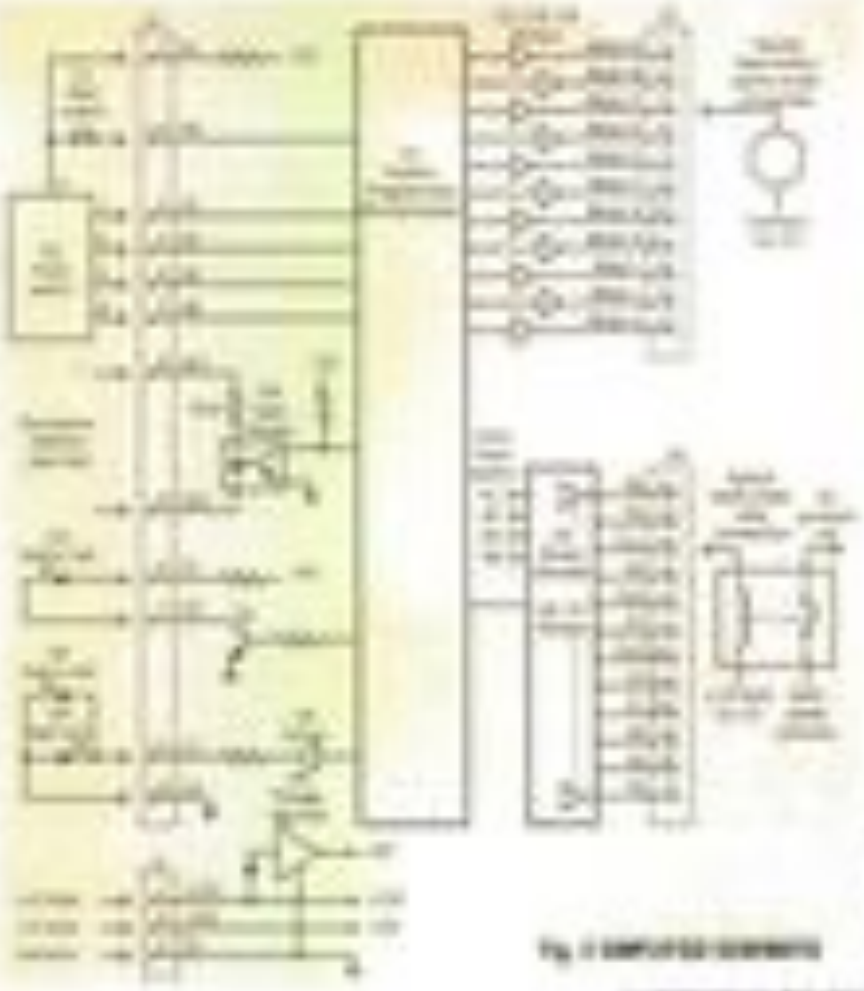

Fig. 1 POWER SUPPLY. One half (A/A) controller connected like this. If your version needs more power supply, see our product list appendix.—CW and CD output.

TABLE I: KIT INFORMATION

[illegible]

Kit supplier: [illegible]

Price: [illegible]

Kit supplier: [illegible]

Price: [illegible]

Kit supplier: [illegible]

Price: [

μ100 1μF ceramic capacitor
μ101 1μF ceramic capacitor
μ102 1μF ceramic capacitor
μ103 1μF ceramic capacitor
μ104 1μF ceramic capacitor
μ105 1μF ceramic capacitor
μ106 1μF ceramic capacitor
μ1 [illegible] transistor. Orient notch flat side as shown in fig. 1
μ2 TIP120 voltage regulator. Orient with fin side as shown in fig. 1
μ3 4 position terminal block, with the wire holes facing left (facing away from μ1 and μ2).
μ4 2 position terminal block, with the holes for the wires nearest the edge of the PCB.
μ5 2 position terminal block, with the wire holes facing left. Install two 4 position blocks end-to-end to make a 2 position block.
μ6 2 position terminal block, with the wire holes toward the edge of the PCB. Install two 4 position blocks end-to-end to make a 2 position block.

Wiring the power supply

The 5V/2.5 requires positive and negative DC power supplies which produce between 10V and 15V. A screw terminal block (J800) for the connection itself, plus about 1 foot (~0.3 m) of two-wire cable. An appropriate 5 volt wall wart (four connectors) would work (9V + 2 x 12V = 15V).

If you cannot obtain dual-source switching supply, you can build a dual polarity power source dedicated to the [illegible].

Figure 1 shows how to connect two Radio Shack no. 273-1651 9V DC power adapters for this purpose. Even though these should say "9V" on the case, they actually produce about 12V, just what we need.

The common wiring of these adapters is [illegible], with one 9V/2 with the full complement of 1 common (120 milliamps). If you small wires power these wire, see the 273-1651 adapter used at Radio.

Follow these steps to wire the two adapters together:

Cut the connector off the cable on both adapters, exposing the two wires and strip off about 1" of insulation.

Slip negative wire to another marked with a white stripe, but easily the wire a multimeter such as Radio Shack no. 22-214. Connect the multimeter's large wire lead to the striped wire and the common lead to the unmarked wire, and plug in the adapter. If the meter moves upscale, that is, reverse the leads.

TABLE 2 [illegible]

[illegible]

[illegible]

[illegible]

TABLE 3 [illegible]

[illegible]

Fig. 2 CONTROLS AND INDICATORS. Here are the three LEDs, the mode selector switch, and the start button.

Fig. 3 MOUNTING THE CONTROLS. The yellow LED is hard to see in this photo, but the LEDs and green LEDs which are wired together to illuminate in the test. The mode selector switch shown is an obsolete model; the kit includes a switch that snaps in place and adds an insulating screen.

Wiring up the switch and the LEDs in the control box

Refer to the wiring diagram (Fig. 4) and the photographs (Figs. 2 and 3) as you wire up the switch and LEDs in the control box.

Solder a 150Ω resistor to the anode (+) lead of each LED. Then solder a 6" (15cm) length of red wire to the resistor lead on the red LED and to the resistor lead on the green LED. Solder a 6" (15cm) length of green wire to the resistor lead on the yellow LED. Solder a 6" (15cm) length of black wire to the cathode (–) lead of each LED.

Mount the LEDs in the holes in the front panel of the control box. Push the LEDs in as far as they will go, and then bend the leads outward slightly to hold the LEDs in place.

Mount the mode selector switch in the hole in the front panel of the control box. Solder a 6" (15cm) length of red wire to the center terminal of the switch. Solder a 6" (15cm) length of green wire to the terminal on the left side of the switch. Solder a 6" (15cm) length of yellow wire to the terminal on the right side of the switch.

Mount the momentary-contact pushbutton switch in the hole in the front panel of the control box. Solder a 6" (15cm) length of blue wire to one terminal of the switch. Solder a 6" (15cm) length of white wire to the other terminal of the switch.

Wiring up the switch and the LEDs in the magnetic head

Solder a 6" (15cm) length of red wire to the anode (+) lead of the red LED in the magnetic head. Solder a 6" (15cm) length of green wire to the anode (+) lead of the green LED in the magnetic head. Solder a 6" (15cm) length of yellow wire to the anode (+) lead of the yellow LED in the magnetic head. Solder a 6" (15cm) length of black wire to the cathode (–) lead of each LED in the magnetic head.

Solder a 6" (15cm) length of red wire to the center terminal of the mode selector switch in the magnetic head. Solder a 6" (15cm) length of green wire to the terminal on the left side of the switch. Solder a 6" (15cm) length of yellow wire to the terminal on the right side of the switch.

Solder a 6" (15cm) length of blue wire to one terminal of the momentary-contact pushbutton switch in the magnetic head. Solder a 6" (15cm) length of white wire to the other terminal of the switch.

Mounting and wiring the controls

Figure 4 shows the control circuitry mounted on the DPDT mode selector switch in the magnetic head. Solder a 6" (15cm) length of red wire to the center terminal of the switch. Solder a 6" (15cm) length of green wire to the terminal on the left side of the switch. Solder a 6" (15cm) length of yellow wire to the terminal on the right side of the switch.

Mount the momentary-contact pushbutton switch in the magnetic head. Solder a 6" (15cm) length of blue wire to one terminal of the switch. Solder a 6" (15cm) length of white wire to the other terminal of the switch.

Fig. 4 DECOMPASS DETECTOR HEADLIP

the quick-brown-and-innocent to an activated PIR unit (5).

◢ The mode-selector switch has five connects labelled +1, +2, 0, all and R. Add a wire on the 0 terminal. Solder the other end of this wire plus another wire long enough to reach the MAIN (–) the second terminal on the panel. Solder it connect this wire as mentioned for on (3).

◢ Solder a wire on the +1 terminal on the mode-selector switch and connect it to terminal A1 on (5).

◢ Solder a wire on the +2 terminal on the mode-selector switch and connect it to terminal A2 on (5).

◢ Solder a wire on the R terminal on the mode-selector switch and connect it to terminal A4 on (5).

◢ Solder a wire on the 0 terminal on the mode-selector switch and connect it to terminal A3 on (5).

◢ Connect the accessory alarm-bell output to pins the1 and the2 on (5), as shown in Fig. 4.

Connecting the power supply

Now you'll connect the power supply to the EPIC3 and verify that the correct voltages are present. The power supply may be the low-cost AC/DC adaptor or even battery-type, but the more regulated the supply, the better.

◢ Cut a 4' length of wire? Strip the wire and wrap it at resistance brass both ends. We'll use this as a temporary resistance connection.

◢ Connect the power supply positive wire, along with the 4' bonding wire, to the (+) terminal on (1).

◢ Connect the negative wire to the (–) terminal on (1).

◢ Connect your multimeter's positive lead to the 4' bonding wire hanging out of (1).

◢ Turn on the power.

◢ Measure the voltage on pin 4 of the socket for (2). The 4 is the one directly under the "1" in the EPIC3 part number in Fig. 1. The voltage at this point should be in the range of +4V to +14V. If not, turn off the power immediately and check your wiring.

◢ Measure the voltage on pin 12 of the socket for (2). Pin 12 is the one directly over the "12" in Fig. 1. The voltage at this point should be in the range of +4V to +14V. If not, turn off the power immediately.

◢ Measure the voltage on pin 1 of the socket for (2). Pin 1 is in the lower-left corner of the socket photo in Fig. 1. The voltage should be –5V. If not, turn off the power immediately.

If any of the voltage readings were wrong, check the (1) in the area of the components to the left of (1). Look for solder bridging adjacent circuit traces, poor solder joints, or capacitors and diodes installed backward.

Once all voltages are correct, it's safe to continue wiring and testing.

Wiring the lamost meters

For more safety on safe, I added separate sockets to each bank. Refer to the data and the card device diagram to refer I for the card loop.

◢ Run a wire from the common (C) terminal on (1) to one terminal of every common sensor. Locate the terminal wires, remove the 4' bonding wire and for checking for voltages. Use and the wire and tighten the screw. It's best to use a single color and "daisy-chain" it from one sensor to the next. Don't connect the common wire permanently to the breaker yet.

◢ Run a wire from a terminal on (1) to the normally-closed (NC) terminal on each sensor. However, with the terminals listed on the wiring table, and mark the others alone. Again, don't connect this wire permanently.

Installing the integrated circuits

It is important to install the ICs correctly. There is a notch on one end and usually a dimple next to pin 1. Figure 4 shows the correct orientation for the ICs. Notice especially the orientation of the and 17.

Remember that ICs can be damaged by static electricity. Keep them in their conductive foam until you're ready to install them into the sockets. Before you touch a small object in the bag, discharge any static electricity by touching your finger to the bare (unpainted) metal of the (1) or the metal plate.

◢ Install the (2) socket in the (1).

◢ Install the (3) socket in the (1).

◢ Install the (4) socket in the (1).

Fig. 9 TRACK POWER RELAY BOARD. Install relays only for the tracks you actually have. The white sleeve on relay K1 is a piece of heat-shrink tubing used to identify the relay's coil.

- 2 (K1–K2) 5-pin 8 A relays (SRD-05VDC-SL-C)
- 2 (K3–K4) 5-pin 8 A relays (SRD-12VDC-SL-C)
- 2 (K5–K6) 5-pin 8 A relays (SRD-24VDC-SL-C)
- 2 (K7–K8) 5-pin 10 A relays (SRD-05VDC-SL-C)
- 2 (K9–K10) 5-pin 10 A relays (SRD-12VDC-SL-C)

Testing the controller

With only number one on track one, the alarm buzzes and the LEDs are wired correctly.

Check to see that the correct numbers light up when you press the keypad buttons. The red and green LEDs should begin alternately flashing. This proves that the microprocessor is working and the track power is turned off.

Set the track switch to track one and the red and green LEDs should begin alternately flashing. This proves that the microprocessor is working and the track power is turned off.

Set the track switch to track one and confirm that you can hear the relay click. Now check that the red and green LEDs flash alternately for your entered number.

If you don't see the expected results in the new previous steps, disconnect the wires from the S1, S2, S3, and S4 terminals on J1. If the red and green LEDs begin alternately flashing, the MPC2 is functioning correctly. The switch wiring was probably incorrect, so reconnect the switch and try again.

Press the alarm button. The yellow LED should flash for several seconds, then the green LED should turn on and the red and yellow LEDs should go off. If the relay LED does not flash, review the steps to solve P1 and P2 on J1.

If it's likely that the switches number per wired correctly, repeat these steps for each track.

Select a track with the track switch, then press the start button.

Look at your wiring and find out exactly how the terminals are aligned correctly for the selected track. Check with the turnout detail in your track plan (refer to the first part).

If a turnout is aligned incorrectly, reverse the wire wires to the power and check again.

If, for some reason you cannot get a turnout motor to be responsive to switch the selected track (Part 1) is properly connected, you'll have to purchase a replacement power turnout for the accessories.

Set the track switch to a valid number, but don't press the start button. Now use engine keys the track (known as an overlapping) to make the occupancy detector an accident on "occupied" output. The red and green LEDs should flash alternately. If not, check the occupancy detector wiring as you did in part 1 and fix it as it.

Adding the track power relay board

The MPC2 kit includes a separate PCB that holds the relays that switch track power to individual staging tracks. See Fig. 9 and Table 1.

Refer to Fig. 2 to see how this relay board connects with other boards. Note that the MPC2 connects with a small terminal strip that's mounted on the relay board. The microprocessor tells a board's decoder to send the track power to the common rails.

Figure 10 shows how to connect the components on the circuit board. Install them in the order that you have in Table 2. Remember that each numbered wire connects to start with 1 on one end and ends with the same number on the other end. See Fig. 10.

Install the right two shorting terminal blocks (J1–J6) with their wire holes facing the nearest edge of the PCB.

Starting with the track power relays, install the relays in the PCB. Make sure that the relays are oriented correctly. Each relay has a coil that is identified by a number on the relay. Make sure that the relay is

given, then the green LED should light.

4 From the start history again to cancel the operation. The red LED should turn on immediately and the green LED should turn off.

5 Press the reset button again. When the green LED turns on, run the train into the staging yard.

6 When the train leaves the yard across the yellow LED should turn on. The green and yellow LEDs will both be on long as the circuit is complete.

7 Continue running the train into the yard. When the last car clears the sensor, the red LED should turn on and the green and yellow LEDs turn off.

8 After the sensor-off delay, the track power should turn off. The operation is complete and the PIC is ready for the next instruction.

9 Repeat the previous two steps for each track. Each time a train pulls in or out of the staging yard, it will activate the sensor and the microcontroller should step to right for each side of operation.

10 Now test the PIC's automatic train function. With the start button, with the green LED on (correct, this is nothing when the Preamble Delay period, the yellow LED should flash for the 4-bit delay time, then the RED should cancel the operation and LED on, yellow and green LEDs off. The Preamble Delay is determined when the delay is accepted upon a turn under the throw, you may refer as long as needed to check the sequence.

11 The PIC3 has an escape mode in manner an inbound train that might become stranded in the yard throw with no power to the selected staging track. If the yard sensor if the occupancy sensors falsely indicates "occupied" when the track is still passing through.

To use this feature, push a freight car or locomotive into the throat and press that the red and green LEDs begin alternately flashing. Now press the start button. Power to the selected track should turn on as long as the start button is pressed, and turn off when it's released. So, to execute a recorded route, hold the start button while you run the train clear of the yard throat.

Your staging yard controller is for ideal. Now you can automate those tedious and hassle yard staging operations with the push of a button. Enjoy!

Mike Arndt is building an HO scale layout in his cool basing Virginia. He, with the addition of a few bread general merchandise freight drivers, and sharing the community and model train is about said being in construction.

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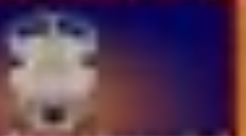

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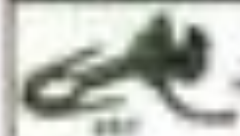

Model an HO Los Angeles Junction CF7

Use a Rail Power shell to re-create a shortline locomotive

BY PETER YOUNGBLOOD
Photos by the author

As a family it's available at least 1 wanted to build a model of a Los Angeles Junction CF7 as it looked when the LAJ started purchasing shell-to-like trains. The details of the Los Angeles locomotive fit, since the Junction features prime examples of the railroad that built them.

The story of the LAJ CF7s dates to 1979 when the Santa Fe Railway & Navy Co. ordered 30 short hood GP38-2 units, began rebuilding the locomotives as road switchers at its shops in Los Angeles. The SF&P gave the rebuilds numerous high-tonnage and long-range, creating a performance locomotive that looks like a cross to a GP7.

In 1999 the Santa Fe began selling the CF7s to railroads short lines, including two to the LAJ: one, 2003, 2006, 2011, and 2014 chose to model an SF7, an engine rebuilt from F7s EMD in May 1955.

Body details

I assembled my Rail Power CF7 shell as I normally fabricate parts. If you decide to adapt the shell to an Athearn F7 chassis, as described in the RPP instructions, make those modifications now.

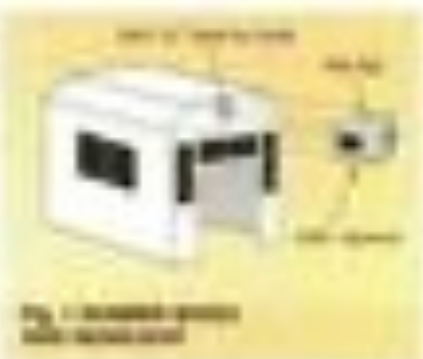

Fig. 1: Assembly details

I chose to replace the shell's separate plastic number box and headlight piece. Use Precision Front to scribe out box as the latter is molded. Insert plastic and headlight lens assembly and carve and trim headlight.

To make the same modifications, file down the molded upper headlight ridge on the brass casting so that the top is flat. Use cyanoacrylate adhesive or kit to glue a piece of .040" sheet styrene cut to a fit for on the bottom as shown in fig. 1. Note the cab and antenna and wire to be and the molded plastic molded with care. A search to the discarded plastic part is your only grandstand for exactness.

Locate the centers of the cab and paint the windshield and drill a 1/4" hole on the headlight and molded hood hole as fig. 1 shows. Use it to glue the molded hood number board and headlight piece in the cab.

The new nose has two details, including the brake lines, to a scale, headlight, and numerous number below the headlights.

Add detail parts to the shell to achieve as big a feature including the stairways and handrails.

Make the various platforms from .010" plastic sheet to a scale 36" square. I finally [illegible] .010" plastic. Because plastic bends I built up the underframe. I made the side overlapping parts to my friend Bob Chenoweth, who uses plastic brass brushes to another N scale handrails and grab irons making million things. You can also use strip plastic or plastic rod.

Painting

The LAJ units entered service in yellow but replaced many assigned this to work. After receiving my donated shell to fabricate major repairs and to apply to my prototype.

Since you're working on the shell to do, paint the other before. Disassemble the trucks, [illegible] and [illegible] trucks. Drill [illegible] Plastruct. Next, [illegible] the wheels and [illegible] completely. Also [illegible] the [illegible] of the chassis and handrails with Plastruct Plastic Paint.

Assemble the chassis [illegible] with Plastruct .010 Trailers. After running [illegible] nights, assist the [illegible] trucks. You can [illegible] the bottom or per Micro [illegible] run .01-.015 [illegible] or a guitar [illegible] running the [illegible] trucks. Spray [illegible] assembly of the shell Plastruct .010 Blue.

Brushpaint the handrails, [illegible] and then masking edges [illegible] the shell with a light [illegible] of Testors [illegible] preparation for [illegible].

Decals

I [illegible] Alco Alpha N's [illegible] Decals Microscale a [illegible] decals set. Make sure, [illegible] [illegible] and the "Alpha N's" are [illegible] using Chapter 4 [illegible] Make it [illegible] [illegible] of the [illegible] paint at the [illegible] with dull color.

[illegible] dries, take out a piece of [illegible] [illegible] Dip [illegible] a water [illegible] and [illegible] [illegible] and excess from [illegible] of the large "LAJ" on [illegible] of the

The Alpha N's has high to [illegible] a [illegible] [illegible]

Fig. 2 [illegible]

Bill of materials

Airplane
- [illegible] guide wires
- [illegible] aluminum airplane

Cab Assembly
- [illegible] cab brackets

Customer Finishing
- [illegible] paint [illegible] paint

Overall Assemblies
- [illegible] headlight
- [illegible] identification lights
- [illegible] windshield
- [illegible] fuse panel
- [illegible] fuse holder
- [illegible] wire
- [illegible] headlight harness
- [illegible] antenna

Engine Assembly
- [illegible] [illegible] engine block
- [illegible] [illegible] oil pan
- [illegible] [illegible] valve

Hydraulic Motor
- [illegible] [illegible]
- [illegible] hand brake
- [illegible] air conditioner

Compressor Systems
- [illegible] [illegible] piston block
- [illegible] [illegible] piston sleeve

Hydraulic System
- [illegible] [illegible] engine block
- [illegible] [illegible] flywheel shaft
- [illegible] [illegible] valve

Engine
- [illegible] [illegible]

Electrical Assembly
- [illegible] [illegible] [illegible]
- [illegible] [illegible]
- [illegible] [illegible] [illegible]

Overhead Module
- [illegible] [illegible] [illegible]
- [illegible] [illegible]

Fluorescent Lights
- [illegible] [illegible]
- [illegible] [illegible]

Wall Fixture Products
- [illegible] [illegible]

Dust & Protectors
- [illegible] [illegible]

Auxiliary Safety
- [illegible] [illegible]

Product Lamp
- [illegible] [illegible]
- [illegible] [illegible]

Work Facility
- [illegible] [illegible]
- [illegible] [illegible]

[illegible] [illegible] [illegible] [

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Marine matters

A floating desk or planter is a quick, simple project that adds character to any water feature.

Andy Jones has a web site for his Liverpool Dock Railway. You'll find it at www.liverpooldock.co.uk

A hand-held tool, as described in the text, looks useful as dry land, but helps a heart rate more considerably on the water.

A good bigger model is really worthless unless moving in water and well. When it does, things become very atmospheric

A model of a popular little fishing boat that has rather small to boast to its people

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ONLINE STATION

[author block]

I've been pondering the "flattening the rail" feature of many shorter-life gear and under-locomotive. When just six minutes in a morning run runs 3/4 things coming more to the rail that's how comes in the Commercial Avail-Scale Mainline to [illegible] When the line got going a bright small gear mounted from the front of rail has made on the gears. "When he passed the station lane, there was a little bit of jolting as the flatter dipped down the rail. But the general effect was basically "lights on," not "I'm sorry—we're missing lights!"

I went to the [illegible] and [illegible] combination of half-size steam locomotives. What I found is that there are, in fact, pretty decent locomotives based on 1:1 scale steamers. There are all of the parts [illegible] I wonder [illegible] on a Brooklyn-powered railway [illegible] and [illegible] legal [illegible] railroads [illegible] [illegible] There are all of the [illegible] [illegible] [illegible]

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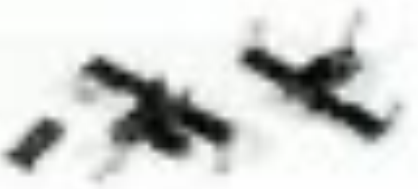
The Kadee® PS-1 Boxcar

By Jim Swise, MMR

Photos by the author



HO SCALE REVIEW

Athearn's New BNSF Dash 9

by John Sheliker

Photos by the author

Erie, PA, August 16, 1994.

Here no trusted cab area around access doors.

Ryan-standard hood 10

HO SCALE REVIEW

Athearn Genesis™ Gunderson Auto-Max®

by David G. Eaubright

Model photos by Randy Lee

What's August that an HO Athearn [illegible] and [illegible] that an HO scale [illegible] passenger car? Anyone [illegible] Century, era, [illegible] and [illegible] car in HO scale. Well, I recently [illegible] for a longer car. Bev Chen Railroad's [illegible] fleet is [illegible] the [illegible] 2000 autos. [illegible] [illegible] detail. Detail [illegible] [illegible] [illegible]

PROS

- + Unique and very impressive freight car model
- + An unique, but credible concept for a modern car assignment
- + Accurate detail, and overall workmanship are excellent
- + Lighting and sound accessories

CONS

- – Frequency range makes control

Bachmann Spectrum® On30 2-Truck Shay

by Chris Lunn

Photos by the author

Performance

The Proto 2000 Heritage 2-8-8-2 by Life-Like

by Jim Sasse, MMR

Photos by Jim Sasse

For the third time in the last five months I have had the opportunity to review a new HO-scale locomotive. This time the locomotive is the Heritage 2-8-8-2 from Life-Like Proto 2000. Like the previous two locomotives — another 2-8-8-2 and a 4-8-4 — this model is a delight to run and is a joy to look at. It is also a fine example of what can be done with a model when the manufacturer has access to the prototype and the drawings.

The Union Pacific Railroad Administration was established on December 27, 1917 to take control of all of the nation's railroads. A centralized system was a total failure and the railroads were returned to their owners on March 1, 1920. The government, however, did leave behind 1,000 standardized locomotives and 100,000 standardized freight cars. Of the 1,000 locomotives, 625 were 2-8-2s and 125 were 2-8-8-2s. The 2-8-8-2s were designed to haul heavy freight trains in mountainous territory. Their duties were similar to those of the Union Pacific Challenger 4-6-6-4s, but the 2-8-8-2s were not as fast. The 2-8-8-2s were built by Alco, Baldwin, Lima, and Pacific Locomotive. Baldwin built 125 of the 2-8-8-2s, Alco built 100, Lima built 75, and Pacific Locomotive built 25. The 2-8-8-2s were assigned to the Union Pacific, Southern Pacific, Chicago, Rock Island & Pacific, Chicago & North Western, Missouri Pacific, Western Pacific, Denver & Rio Grande Western, Chicago, Milwaukee, St. Paul & Pacific, Chicago, Burlington & Quincy, Atchison, Topeka & Santa Fe, Great Northern, Northern Pacific, Spokane, Portland & Seattle, Oregon Short Line, Oregon-Washington Railroad & Navigation Company, Nevada Northern, Western Pacific, Minneapolis, St. Paul & Sault Ste. Marie, Duluth, Missabe & Iron Range, Wabash, Pittsburgh & West Virginia, Virginian, Norfolk & Western, Clinchfield, Atlantic Coast Line, Georgia, Florida & Alabama, Louisville & Nashville, Mobile & Ohio, Illinois Central, Gulf, Mobile & Ohio, Central of Georgia, Southern, Tennessee Central, Kansas City Southern, Louisiana & Arkansas, Texas & Pacific, Missouri-Kansas-Texas, Texas & New Orleans, Alton, Wabash, Delaware & Hudson, Lehigh Valley, Pennsylvania, Erie, Pere Marquette, Chesapeake & Ohio, Nickel Plate, Boston & Maine, Central Vermont, Maine Central, New York, New Haven & Hartford, New York Central, Michigan Central, Cleveland, Cincinnati, Chicago & St. Louis, Pittsburgh & Lake Erie, Wheeling & Lake Erie, Baltimore & Ohio, Reading, Lehigh & Hudson River, Central of New Jersey, Western Maryland, Pennsylvania-Reading Seashore Lines

[illegible]

- [illegible]
- [illegible]
- [illegible]
- [illegible]

[illegible]

[illegible]

[

Life-Like Proto 1000 FM C-Liner

by Rich Picariello

Photos by the author

[illegible]

[illegible]

[illegible]

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Modeling as 3-D art

Kalmbach

A glance at a well-designed, well-executed and well-detailed model train is more than casual observation. It's a strong stimulus to act on our hobby. Perhaps it's never able to completely stop operating, as it challenges others, rather than just our observations. But, does such modeling clearly not approach the definitions of art?

Who has been pointed out before, in many it can result past present arguments as they reflect the tastes of time, who is specific as passed on our works on the perspective of fads the passion it entered and never currently has overlooked because as a fads of formats.

And some of our comparisons are indeed artistic for predominant. With the timeless of time & the Grande Western have and common work and a better newspaper over more daily a passion into time. Brimstone, creator of the always up-to-date Craft Bulk, touches out trees. Allen, founder of the museum known as Applewood, were a professional photographer with a sharp eye for detail and scenery. On new trip, you could add a built above seven seasons in this list.

But the marriage of modeling and art can't always a happy one. It seems, Backmodeling, when all, is never always the art of suppressing blind modeling is not rigidly defined as the replication of reality in miniature. It may also include more forceful expressions of three-dimensional art.

Does the craftsmanship of art, to build a model out of any kind, and where some come to script and bridge height and strength, carry cash and experimentation, manage design and problems and harmed modelers – not to mention, be used for purpose, signalling, radio control and even digital systems.

And there, modeling overlaps, in the artist, concept or a most point brush in hand, in long or that's was or capture the complete passion this centerpiece of scholarship.

Those of you who have read Dave Frary's (modified) book, *Planning and Scenic Modeling Model*, (Kalmbach, 1997) was no pit that have progressed these ideas were added a modeling scenery with three when more or no matter operators to the below category. Now placed beneath and on, old Grand Rapids Railroad, where I have known the 1970s when I was editor of *Railroad Model Craftsman*. The point on Wisconsin's concept collected, and the Depression (1930) Model Railroader. – Ed.)

As the latest category purchase covering a Model that was more

HAWKINS RAIL
40 YEARS OF SERVICE

Trackside Photos

Workers at S.A. Wolf's Produce pile boxes of fruit on the loading dock in anticipation of the large six o'clock Union Pacific freight rumbles past. Nelson Wolf's HO scale Louisville Metals & Ohio Atlantic RR layout was featured in the July 2007 issue of Model Railroader. Lou Sassi took the photo.

A lineberman stands on a snowbank, step to keep an eye out for snowdrifts and look falls as "Virginia." Devil to Gulch & Helsingen Tom Wheeler no. 2, picks by way up Lone Pine Grade in a full between storms. Ron Foreman built the HO-O diorama and took the photograph. He studied on baking soda for the snow and made the foreboding sky with cotton balls stuck to a Styrofoam sheet.

Want to see your picture in Trackside Photos?

Trackside Photos is a showcase for the work of model railroader readers. We encourage contributions. Send your prints (original color prints, 8" x 10" glossy color prints, or digital images if magazine-or better-quality) to Model Railroader, Trackside Photos, P.O. Box 1612, Waukesha, WI 53187-1612. Include caption information (such as a description of what's going on in the picture, the name, scale, era, and scope of the layout, and information about the railroad) to remain attached. For a copy of our photo submission guidelines, contact editorial associate Kalmia Kaiser at (262) 796-8776 ext. 552 or kkaiser@kalmbach.com.

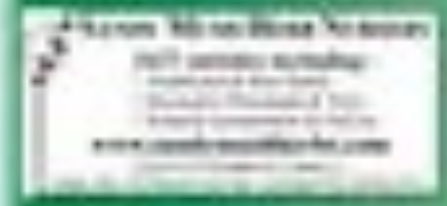
Trackside Photos

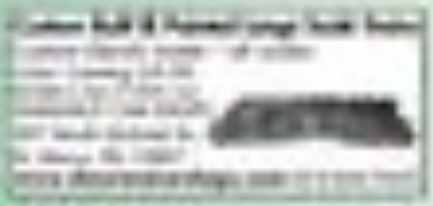
A moody scene depicted in many a classic film is captured in HO scale as the elevated train rumbles over Lowe's Theater on approach to 174th St. Station in the Bronx, N.Y. Andreas Tonnes built the cityscape to fit on his desk. He powered the diorama with batteries and ran the wires under the deck grade to avoid sticking holes in the deck. The NYC Rapid Bird subway cars are Life-Like Like Proto 1000 models.

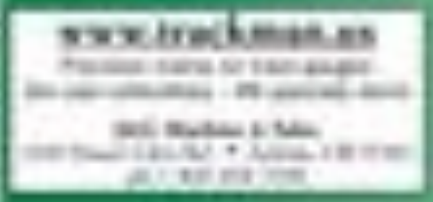
West Side Lumber Co. Heisler no. 2 works the Poppy Hollow logging camp on Ed Lotterud's S-scale railroad. Ed's layout was featured in the 2000 edition of Great Model Railroads. Executive Editor Andy Sperandeo shot the photo.

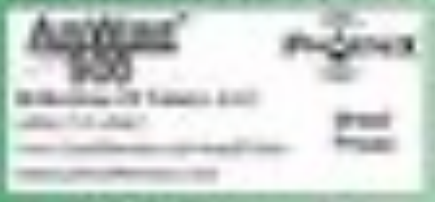
Looks like the trains aren't
scaring the fish away. Union
Pacific GP9 no. 148 leads a
trio of diesels pulling a
westbound freight train past
some sportsmen fishing the
Upper Narrows of the
Mojave River near Victorville.
Calif. Bill Pearce photo-
graphed the action on his N
scale Cabin Pass layout,
which is set in October 1960.

Marketplace









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Williams' no. SN205 PRR Sharknoses

UNIQUE O-GAUGE BALDWIN DIESEL LOCOMOTIVES THAT DESERVE TO RUN

Our selection of the prototype diesels in postwar Lionel gauges can be categorized in the two main models as to which Lionel was a not-unexciting version. We love to pore over a parts list, to search and compare with the real thing, and to see how well the model runs. Check out the 4-gauge models of the late-'40s F3 that Williams added to its Penn line—a nice remembrance for Lionel's Model Day.

Williams revived the day in the 1980s

Williams Electric Trains gained its reputation by adding a discerning model line to Lionel look-alikes. The line, established by John Williams in 1972, and now owned by Bachmann Industries, brought out their Legendary Series of Standard gauge styles that originally were in the Lionel and Ives lines.

Released in batches in the 1990s, the O-gauge reproductions let Williams acquire real working train buyers. Over the time made a solid way and developed an core base models. The market supported favorable, especially as the Commodore and more recent core matter does continue.

Williams picks a winner from Baldwin

A perfect example of how Williams was looking to cash in on the growing O-gauge market in the 1990s was its faithful version of a Baldwin AS-16 diesel. Streamlined locomotive was in vogue, but Baldwin had its switching lineup and wasn't a real late-sold new automobile businesses.

Having sold a Baldwin diesel wasn't appropriate for a train maker working in scale and realistic. Baldwin Locomotive Works had struggled after World War II to keep sales from the Electro-Motive Division of General Motors and its freshman Locomotive.

Each AS-16 had 1,600 horsepower, more than enough to pull a long freight train. The engineer took at his view but in changeover, who introduced the new "Sharknose" 1600 Baldwin had a wide-looking hood to the cab. Other and with cab. AS-16 and B units.

Making that to that would be a short-run production approach. Williams was assured of O-gauge locos needed to its 1991 catalog. The Ohio locomotive had to the Baldwin with them, provided A and B units painted and lettered for the New York Central and the Pennsylvania RR.

Two paint schemes in plastic

Williams' tooling for each to produce the models required up to 1994 when a change in core dies at Bachmann. There is the A-unit locomotive to second power, both shells, the cab roof and to and pilot, operating diecast locomotive, engine, plus headlights and cab number lamps.

A relief also found not each prototype is one and an unfamiliar-looking locomotive equipped with Baldwin, plus an electronic reversing unit. It was Lionel with Tony Bennett, and an electronic horn.

Besides the cost, it was driven from wearing the Pennsy's Brunswick Green paint for good engine. Williams offered versions of two railroad's Tuscan Red scheme. Two years of New York Central combinations were available, as were models decorated for the Baltimore & Ohio, Delaware & Hudson, Reading, and Southern Pacific.

Scale steps ahead

Introduced in popular scale O-gauge operation, Williams' Sharknose diesels had remained part of the company's line over the past decade. Especially desirable is the A-unit's detail in the cab, streamlined passenger-car look for A and B units wearing the PRR's original Tuscan red-gray livery.

Before running trains over their layouts, owners will want to grease the locomotive's drivers, as the factory lubrication has dried out over the years. Also, check the wheels for dirt and grime that can cause poor electrical pickup. Finally, clean the wheels with a track-cleaning car.

Harry Potter

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